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ABSTRACT

These nine articles deal with basic philosophical questions concerned with the general nature of sloyd or with the educational aspect of sloyd. (Sloyd, derived from a Swedish word, is an umbrella term for making or crafting things by hand.) They report research on cultural questions related to goals and contents, ranging from sociocultural reproduction to the subject's possibilities of giving modern man general technological competence. The articles are as follows: "Craft as Means of Developing the Modern Individual" (Seija Kojonkoski-Rannali); "New Approaches to Craft Research--Educational Address" (Minna Uotila); "Constructing Symbols of Norwegianness: How To Understand the Invisible in the Visible" (Jorunn Spord Borgen); "Rudiments of a Sloyd Pedagogy" (Mikkel Holmback); "Craft and Design (Sloyd)--Sociocultural Reproduction and New Creation" (Marlene Johannsson); "Sloyd Education and Phenomenography" (Mia Porko); "Technology Education in the Perspective of Finnish Sloyd" (Pasi Kankare); "Improving Sloyd through Reflective Practice in Early Childhood Education" (Ari Alamaki); and "Creativity in Cuban Teaching, Educacion Laboral: An Experimental Work" (Lazaro Moreno Herrera). (YLB)

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TECHNE SERIES Research in Sloyd Education and Crafts Science B: 2/1996

SLOYD COMPETENCE IN NORDIC CULTURE PART III

Approaches to the nature of educational sloyd and craft

Eds.
Linnéa Lindfors
Juhani Peltonen
Mia Porko

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Research network

SLÖYD COMPETENCE IN NORDIC CULTURE
The Life-Shaping Function of School Sloyd in an Individual and Social Perspective

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SLOYD COMPETENCE IN NORDIC CULTURE
PART III

Approaches to the nature of educational sloyd and craft

Eds.
Linnéa Lindfors
Juhani Peltonen
Mia Porko

NordFo
Nordic Forum for Research and Development
in Craft and Design

Preface

The Techne series is intended for the publication of research results in the fields of sloyd education and crafts science in the Nordic countries. The publishers are NordFo, Nordiskt Forum för Forsknings- och utvecklingsarbete inom forming, håndarbejde och slöjd samt duodji/sameslöjd (the Nordic Forum for Research and Development in Craft and Design), the sloyd world´s own research organization. The series is divided into an A and a B series. The A series is intended for the publication of research reports in English or some other world language for a large public, but the Scandinavian languages and Finnish may also come into question. Especially research reports in English are in great demand, not only in the Nordic countries but globally. The B series comprises proceedings, i.e., research presentations of research findings and contributions to some topic of discussion as well as reports in the Scandinavian languages, Finnish and English from congresses, symposiums and workshops.

We hope that the Techne series will become a forum for reliable scientific reporting on sloyd education and crafts science and thus strengthen the position of these relatively recent fields of science in the Nordic countries.

The first publication, which was issued in the autumn of 1995, contained articles by members of the research network "Sloyd Competence in Nordic Culture". NorFA, Nordisk Forskarutbildningsakademi, has granted means for the publication of research results within the framework of the research network. In 1996 two collections of articles in the B series are published by the network. A collection of articles in the Nordic languages is published simultaneously with the present English-language publication, to which, besides members of the network, two Finnish sloyd researchers, Seija Kojonkoski-Rännäli and Minna Uotila, and the Cuban sloyd researcher Lázaro Moreno Herrera have contributed articles.

The articles in this collection deal with basic philosophical questions concerned with the nature of sloyd more generally or with the educational aspect of sloyd. Furthermore, they report research on cultural questions related to goals and contents, ranging from sociocultural reproduction to the subject's possibilities of giving modern man general technological competence.

In the title of the series of publications the word *sloyd* has been used as an umbrella term for different educational crafts whose scientific basis is to be found in Sloyd (or Crafts) Education and Crafts Science. So far, researchers in the Nordic countries have not been able to agree on a consistent English terminology for the branches of sloyd in the research reports. The reader is therefore confronted with several different terms for the subject area dealt with in the articles.

Vaasa/Vasa in December 1996

The editors

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Seija Kojonkoski-Rännäli
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Craft as means of developing the modern individual

Abstrakt

This article is based on the concept of man as an individual whole consisting of all the elements of existence, whether material, biological or intellectual, and also on the writer's concern for our basic education, which develops the modern individual one-sidedly only in the area of intellectual and abstract skills. The human body as an instrument for acquiring experiential knowledge cannot be left unused or undeveloped without producing fatal consequenses to nature, to man himself and to the whole of society.

Keywords: craft, experiential learning, growing responsibility, versatile development, practical skills.

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Craft as means of developing the modern individual

The one-sided development of the modern individual

Man is an individual and at his best a harmonic whole consisting of all the elements of existence, a whole that can also be in harmony with other forms of existence. The basis for this harmony is the fundamental unity and identity of these other forms: matter, biological life, spirit and consciousness. This basis enables man to experience balanced identity with the world outside his own environment as well as with his own origins, provided that he uses equally all the areas of his personality and thus also develops himself as a human being in as versatile a fashion as possible. (Kojonkoski-Rännäli, 1995, pp. 46-47.)

From the early days of our western civilisation we have had a strong tradition that especially values the spiritual characteristics of man, and we particulary want to develop his intellectual skills. Consequently, our school system has traditionally concentrated on exercising the pupils' intellectual skills and on providing them with theoretical knowledge.

Today the demand for knowledge and intellectual skills has reached enormous proportions. We believe that only by developing man's intellectual side to the extreme can we achieve our material goals, which seem to have become the main purpose of our existence. This exactly is the most distinct manifestation of the peculiar one-sidedness of our culture; in man we overnourish his intellectuality and in nature its materiality, both for materialistic reasons.

This one-sidedness is becoming fatal, not only to nature, but to man himself. By developing the intellectual side of man alone we are cutting ourselves off from the other forms of existence and losing

our ability to regard nature as something else than an economic resource. The French philosopher Paul Virilio's prediction, according to which 'the development of great technological velocity leads to the disappearence of conscious, direct observation of such phenomena as provide us with knowledge of our own existence' (Virilio, 1994, p. 106), has already come true. For example, when we travel by plane, we have no such direct perception of our geographical position or our surroundings as we have when we are riding a bike. Travellers crowding into fast transport vehicles have 'invalidated the global dimensions' (ibid., p. 104). Virilio continued his prediction by saying that we will reject 'the transportational velocity of body and object', and we can see that having come true as well. We no longer move from our seats, because 'watching the motion of light on screen has replaced all effort for personal movement' (ibid., p. 106) According to Virilio, 'technological protheses' replace our own senses, and monitors, silver screens, decibels and laser beams protect our secluded life (1994, p. 68-69).

The relationship between the individual and the material at hand

What does this actually mean? According to Merleau-Ponty, our culture has cut us off from our origins. Through causal thinking we have turned our living body into an object without inner essence, and our subjectivity into an interior without an exterior (Merleau-Ponty, 1989, pp. 40-41 and 55-56). But the human body is an instrument for acquiring experiential knowledge and shaping the world. Only through his body can man exist in the world and be attached to a specific environment (ibid., p. 82; see also Vilkka, 1992, p. 4). Also Heidegger emphasizes the physical side of man as an instument of existence. According to him, the ontological foundation of the world is tangible (Zuhandenheit). It means being in relation to and in connection with something. For this, we need instruments and the skill to use them (Heidegger, 1986, p. 83).

In the tangible world of direct action, man exists specifically as a physical being - through his experience. Grasping the world by hand and moulding it by hand in different situations constitutes man's original activity, for which he has the basic intention of

making (Kojonkoski-Rännäli, 1995, p. 54). In the process of making by hand, we create a relationship to the world and matter on both the intellectual level of thought and on the organic level of experience. As this technique of making changes into so-called modern technique based on the natural sciences, the close organic relationship between man and the world is broken. In making, man acquires knowledge of the world mainly through his intellect and thinking. Direct experience, hand touching material, is becoming increasingly rare. In the process of making by hand, as experiences and feelings are related to the activity, the maker learns to know his material and the world, which he himself is part of. In a certain way he commits himself to his material and feels responsible for his work. Furthermore, as he works relying on his own energy and physical skills, he learns to know his own possibilities and limits in practice (Mumford, 1984, p. 259). Thus he acquires the necessary caution about his attitude towards his productive activities in general, and he also learns to avoid unnecessary risks.

The integral process of craft

The words *craft*, *technology*, and *art* all refer to human activity producing concrete objects, and they have a common origin in the Greek term *techne*. According to Heidegger, the verb *techne* means using the existing to bring out something new (her-vor-bringen). It involves the complete planning of the form and material of the product, as well as the use of these plans to determine the method of making. It is essential that, in addition to the use of tools, the actual completing phase, it also involves both the artistic and the technical planning, i.e. considering in what form and how to bring out something. (Heidegger, 1985, p. 17.)

Thus an integral process of making is an essential characteristic of techne-type making. Another important characteristic is that it "allows existence" ("das Wesen des Bauens ist das Wohnenlassen") (Heidegger, 1985, p. 154). This means that making is the kind of building and nursing (bauen, schonen) that makes existence in the world possible and pleasant. As such, it forms part of a quite particular life style, namely one where man considers not only his

own needs, but also the needs of the community and nature's own requirements (ibid., p. 155).

The latest research on craft science and education has served to introduce different models describing the process of handicraft (Anttila, 1993, p. 111; Lindfors, 1992, p. 83; Peltonen ,1988, p. 196). These models show the making of handicraft at its best as a techne-type "integral process" (Kojonkoski-Rännäli, 1995, p. 58) and thus also having the quality of "allowing existence".

Craft can be made, and unfortunately also taught, in other forms as well. For example, when the maker himself is responsible for the technical planning and the actual making, whereas somebody else completes the artistic planning (the model), or when the maker only does the work following plans and directions given by others, we can talk about 'a shared handicraft process' (Kojonkoski-Rännäli, 1995, pp. 93-94 and 98). Even when shared, craft has its value, but to the development of man the existence of an integral process is extremely important. The integral process in making by hand activates the creative, mental and intellectual as well as the physical and motor skills of man, and simultaneously it develops in many ways the maker's inner qualifications or his different skills in all the areas of his personality. Here lies the educational validity of craft, which the school can hardly afford not to take advantage of. However, in order to benefit from it, teacher education has to provide students with the necessary knowledge and skills, which enable the teaching of integral craft.

The external product of craft

The external product of craft is a concrete object, which is of great importance in the development of the individual's self-knowledge and self-esteem, as it embodies all the phases in the craft process in the form of different qualities. Thus the skills of the maker in the various phases of the process manifest themselves in the product, and in the form of its qualitative characteristics these skills appear to the eyes of others. As the object in its entirety is made by one person, these qualities appear to be the external realization of the

maker's personality. According to Aristotle, the maker 'loves' his piece of work and especially his own existence in it, because "...the piece of work makes actual and known what the maker is potentially' (1989, p. 176). This again emphasizes the teacher's own skills both in craft and in teaching. He should be able to help children get genuine satisfaction from their work.

Pragmatic sense

Among the inner qualifications that craft develops in the maker, we have to draw attention to a human ability that Aristotle called pragmatic sense. It is the ability to evaluate the relationship of separate matters both to each other and to the whole, as well as the ability to see the underlying circumstances and to anticipate their effects. It can also function as the highest form of responsibility, as Gadamer says (1986, p. 327).

Aristotle divides the rational or progressive side of the human soul into two separate parts scientific sense and reflective sense. Pragmatic sense belongs to the area of reflective sense, where people think about "things that can be different". There exist also activity and making which require the physical skills of man. (Aristotle, 1989, pp. 107 and 110-111.)

In our western culture, there has always been a tendency to develop effectively the other side of the human soul, scientific sense. Our school system emphasizes one-sidedly scientific knowledge and thinking in the field of making, as making is becoming mere technology. However, in the area of reflective sense, pragmatic sense develops in making that is based on knowledge and thinking, but also on practical skills. Today, as these skills are no longer needed, machines having taken over the carrying out of the production process, pragmatic sense can no longer develop in all individuals. This important ability cannot develop in machines, and as man is freed from the concrete part of his production, he is no longer able to direct his own production activity. The sinking of unsinkable ships and disastrous power plant accidents are concrete examples of how this 'development' manifests itself in practice.

The linear concept of time, which has had a decisive influence on our lives from the very beginning (Mumford, 1984, p. 23), has kept us under the impression that better opportunities always lie in the future and that all that is familiar in the past is lost, and if we keep it with us, it presents a drag on progress. To identify development with the future is understandable, as development of technology has always brought great possibilities for man to control nature and make life comfortable, and this development is closely connected to the adoption of the mechanical time concept. In addition to this and to the concept of reality based on stable substantial thinking, emphasis has recently been given to the idea that reality is based on change, coming into existence and interaction. This pattern of thought, already known in our culture in Antiquity (e.g. Heraclitus) as well as in the great Eastern philosophies (Nurmi, 1993, p. 122), enables us to accept past experience and future hopes and fears as elements to build our future on. Maybe the time has come to evaluate the development of modern man and the importance of craft in basic education from a new and wider perspective.

References

Anttila, P. (1993). *Käsityön ja muotoilun teoreettiset perusteet.* Porvoo Helsinki-Juva: WSOY.

Aristoteles (1989). *Nikomakhoksen etiikka.* Suom. Simo Knuuttila. Helsinki: Gaudeamus.

Heidegger, M. (1985). *Vorträge und Aufsätze.* Pfullingen: Verlag Gunter Neske.

Heidegger, M. (1986). *Sein und Zeit.* Sechzehnte Auflage. Tubingen: Max Niemeyer Verlag.

Kojonkoski-Rännäli, S. (1995). *Ajatus käsissämme. Käsityön käsitteen merkityssisällön analyysi.* Turun yliopiston julkaisuja. Sarja C. Osa 109. Turku: Turun Yliopisto.

Lindfors, L. (1992). *Formgivning i slöjd. Ämnesteoretisk och slöjd pedagogisk orienteringsgrund med exempel från textilslöjdundervisning.* (Rapporter från Pedagogiska fakulteten vid Åbo Akademi nr 1). Vasa: Åbo Akademi. Institutionen för lärarutbildning.

Merleau-Ponty, M. (1989). *Phenomenology of Perception.* Translated from the French by Colin Smith. London: Routledge.

Mumford, L. (1984). *Teknik och sivilisation.* Göteborg: Vinga Press.

Nurmi, S. (1993). Whiteheadin prosessifilosofia ja -teologia. Teoksessa Timo Koistinen ja Juha Seppänen (toim.). *Usko ja filosofia.* Helsingin yliopiston systemaattisen teologian laitoksen julkaisuja XII, 121-132.

Peltonen, J. (1988). *Käsityökasvatuksen perusteet. Koulukäsityön ja sen opetuksen teoria sekä teoreettinen ja empiirinen tutkimus peruskoulun yläasteen teknisen työn oppisisällöistä ja opetuksesta.* (Julkaisusarja A:132). Turku: Turun yliopiston kasvatustieteiden tiedekunta.

Vilkka, M. (1992). *Käsityö ja filosofia taitoina.* Luento käsityön filosofian luentopäivillä 9.10.1992 Jyväskylässä. Moniste.

Virilio, P. (1994). *Katoamisen estetiikka.* Suom. Mika Määttänen. Tampere: Gaudeamus.

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New approaches to craft research - educational address

Abstract

The study investigates a theorethical problem concerning the essence of the relation between human being and art and craft. The main question is: In what way we can treat and teach art and craft as both concrete material form and imaginary content, involved in such a way in our everyday being, that it contributes to the maintenance and development of our identity and way-of-being. An epistemological analysis reveals that a possible solution could be found with the support of feminist and phenomenological approaches to knowledge. On the basis of Heidegger's philosophy of art daring and innovative combination of different dimensions of art and craft raises the possibility to create universes that manifest open-mindedness and preparedness to understand the unique essence of craft.

Keywords: craft theory, art theory, phenomenology, body, gender, feminism.

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New approaches to craft research - educational address

Introduction

This study is about craft and craft teaching, phenomenology, and feminism. It therefore assumes a particular kind of relationship between three sets of practices and explores various points whereby they overlap and intersect. By focusing on the multilayered dynamical relationship between craft and craft teaching this study brings together both artistic and craftial elements by interweaving various methods and concepts of craft teaching with those of philosophy and feminism. The fixed habit of teaching and conventional modes of expression is contrasted here with the unique focus on utilisation of methods and models; the subjective mode of expression.

The linking of feminism with craft in itself raises a series of questions, some of them analytical and theoretical, others more practical and ideological. Feminism is an ideological practice with its own proceedings. Craft, on the other hand, while posessing its own history, appears at first sight more concrete.

Phenomenology is a philosophical attitude which emphasis on craft is mainly to view it as a phenomeon and not as a concrete and manipulative object. In truth an everyday understanding of craft and handicraft teaching has become institutionalised. Our understanding of what craft and craft teaching is or ought to be has somehow become trapped into being embarrassing on the one hand, yet impenetrable on the other.

The aim of this article is to address both the explicit experience and sexualisation of knowledge in the handicraft process. The initial section of this article briefly outlines the basis of modern craft research. In the second section I will concentrate on methodological and epistemological concerns. In the third and final section ques-

tions are raised regarding feminism and how we may use this ideology in critical opposition to traditional ways of thinking about craft and handicraft teaching.

The phenomenological approach

Two kinds of approach to theorizing craft can be discerned in twentieth century radical thought. One is derived to from Nietzche, Foucault and Deleuze. The other is influenced by scholars of psycho analysis and phenomenology and regards the lived experience of craft work. (cp. Grosz, 1993, p. 196). My attempt is to both: problematize the process by which craft is marked and constructed by discurssive and non-discurssive powers and to problematize craft as it is experienced and rendered meaningful.

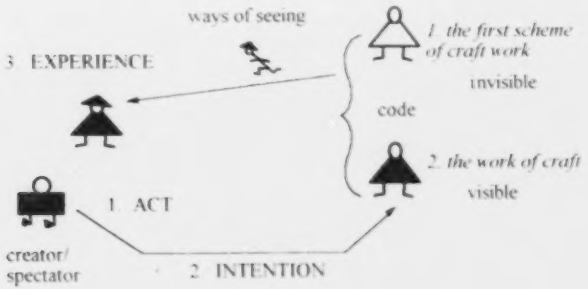

Figure 1.
The philosophical cornerstones: act, intentionality and experience.

Firstly the philosophical roots of my study reach back into Edmund Husserl's (1859-1938) rational philosophy, from which I found the cornerstones: *act, intentionality* and *experience*. Following this my method grews develops of Martin Heidegger's ([1935-36] 1980) existential analyses. Hermeneutic methodology brought the scholar close to understanding the metaphysical meanings of craft. This axiom of the hermeneutic philosophy of science helped me to see how all understanding is understanding in context. Thus in my

studies, phenomenological-existentialism is presented as an alternative paradigm for conceptualizing and studying craft. By analyzing different paradigms and theoretical conceptions, I have found out that the traditional Cartesian *cogito* (ie. I or the concept of human being) is what prevents the theory of craft from dealing with both an ideological meaning and gender related aspects of craft. (Uotila, 1994; 1995)

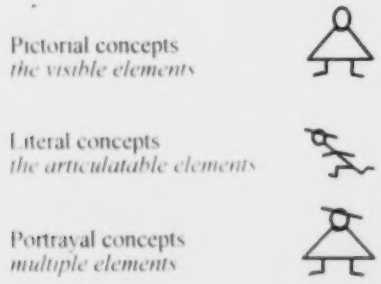

Figure 2.
The categories of concepts.

In order to better describe various presumptions in scientific discussion I have used the following symbols (see *Figure 2*). The first symbol is called the category of *pictorial* concepts and the second, the category of *literal* concepts. These categories represents two different types of dualisms which form the basis of an epistemology of two paradigms. The latter category represents traditional Cartesian or Kantian philosophy while the former is a representation of non-Cartesian pluralism which discards the dualistic worldview and makes an effort to develop a new way of thinking. Focusing on a multiplicity of relations between forces which are therefore free of any dualizable form and an intersubjective character of reality in the Foucaultian sense, the visible and articulatable elements enter into a duel (Deleuze, 1988, p. 83). It is this duel which forms the third symbol. Its outcome is a nomadic approach viewing human beings in non-dualistic terms and seeking to relate specific experiences, or the differences, to each other.

The underlying philosophy of craft

Traditionally craft and art have been seen as opposites. My emphasis on Heidegger's philosophy of art has caused to prefer the framework of pictoral epistemology to a mechanical language system. A Heideggerian starting point is poetry, in which the true essence of both language and art is revealed. When focusing on the areas of art and craft (including clothing) within the field of philosophy questions about the essence of craft may be layed out in the following fashion (cm. Yli-Maula, 1992, p. 60-61):

1. We cannot analyze craft (including clothing) starting from such categories as: tools, techniques and materials etc., since these categories are only accessible through the work of craft itself.
Dividing craft into the categories of tools or techniques is a meaing-reducing method of categorizing, which removes the individual's expression from its real context; from its essence in world.

2. The work of craft shows us what the techiques, tools and materials truly are. It reveals the essence of craft.
Culminating within craft work are its essential craftial elements and the innermost or underlying philosophy of them. Without personal philosophy, no essential craftial elements will emerge.

3. Craft is a happening, a strife between being itself and an item of expression.
It is the task of the craft-maker to create craft, i.e. to make and design craft with aesthetic and functional goals. As much as the task itself provides opportunity for the designer or pupil to become a craftsperson, the craftsperson or a pupil provides the craft. The work of craft is a 'happening' and the invidual's personal expression is a manifestation of this happening.

4. The individual's work of craft is a happening of truth. It expresses the individual's sense of truth.
Individual expression presupposes craftial truth while bringing it forth. The conception of craft depends on the phenomenon itself and the way it will be perceived. If we were to view craft as a text, then both the hidden meaning and the creator's intention would not

be able to be achieved. Yet the distincton between truth and untruth is for Heidegger no longer linked to the issue of Dasein's authenticity. The individual's expression presupposes authenticity.

5. The creation of craft work corresponds structurally to its preservation; both are matters of receiving rather than active participation.
Works of craft interprete us. Presenting by producing current meanings in form, it is possible to conceive their essence of Way-of-Being.

6. Craft is bound to individuals and determines their essence as well as their history.
Craft is bound to a temporal-spatial frame via both the creator and the spectator. The visual form of craft articulates the spirit of the time (*Zeitgeist*).

7. Poetry is the essence of craft.
The relationship between the language and visual meaning of craft may not be reduced to an articulatable language. Heidegger's notion of poetry is much more comprehensive than poetry in its usual meaning in literary works.

From this starting point it necessarily follows that the ontology of object and the method of modern scientific craft (including clothing) research must be re-written. The fact that Heidegger sees art as language is nothing new, yet what is interesting in his theory is his idea that art is not a random system of signs but universal language. That means that language is not seen as totalised, but universal of its own accord.

These seven theses, which are adapted from a Heideggerian theory of art are merely used here as examples and hence there is no reason to dwell on them. More essential is the notion that craft research be seen in this light, and moreover that we assume as our responsibility the ongoing task of seeing the poetic content of reality. The ideal is not to make an investigation of the lived world as observed, but to join the subject's existence as a whole. Otherwise the 'language' of pictorial or feminine research remains as a question

covered by the spatial, in time, where philosophical reproductions are invisible and hidden - that is the Lacanian *la Chose* -, and timeless objects are transformed to their visible and historical form: Lacanian *la chose*. The poem and the aphorism are themselves objects of an interpretation and evaluation. Or as Deleuze (1983, p. 31) writes when he interpretes Nietzche's thinking: "The poem is evaluation and the act of evaluating, it articulates value."

Craft: body and brains

C.S.Peirce, who has to have enormous impact upon the classification of images and signs, distinguished three kinds of signs: icons, index, and symbols. Icon is a sign in the case in which the thing which serves its expression in one or other identifies. An index is a sign in the case of which that thing which serves as its expression is interpreted as typical of something. The term symbol stands for conventional signs, linguistic patterns and metaphors.

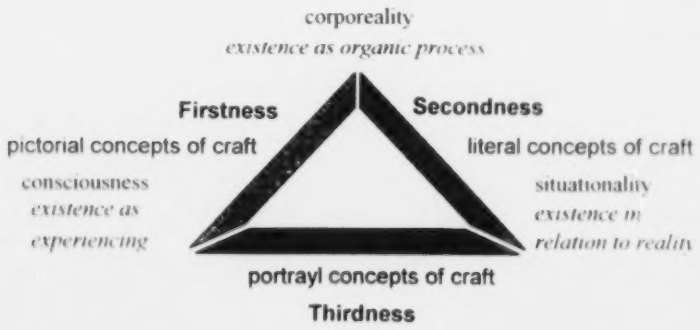

Figure 3.
The three essential modes of craft.

In my texts (Uotila 1994; 1995; 1996) this threefold division of sign presented in Peirce's philosophy have been brought into the area of art and craft (including clothing). In order to understand the essence of craft and in addition craft teaching as a process and a multidimensional semiotic object, I stress the relevance of the Peircean scheme: the threefold division of sign and the three phenomenologi-

cal categories. The triadic conception of sign can be seen as a continuation of the holistic concept of man. It implies the three modes of existence: conciousness (*existence as experiencing*), corporeality (*existence as organic process*) and situationality (*existence in relation to reality*) (Rauhala, 1988, p. 201).

Talking about the phenomenological categories Peirce first distinguishes two sorts of images which he called 'Firstness' and 'Secondness'. The third philosophical category is 'Thirdness' and it describes the relation between the two previously mentioned categories. While Firstness is the category of the 'Real'; of the actual, existing, and individuated, Secondness consists of an idea of something else, that dynamic process of action and reaction. (see also Deleuze, 1986, p. 98) It is only through Secondness that we are capable of being linked to reality.

Thirdness is the general rule of feeling and acting in which we receive the highest intellectual knowledge from the real world. Thirdness represents intellectual action and logical argumentation, which produces order, rules and customs out of chaos, arbitrariness and disorder (CP 1.303-1.351). With these three categories Peirce combines three types of argumentation, namely; abduction (Firstness), induction (Secondness), and deduction (Thirdness) (Peirce, 1940, p. 74-97; p. 98-119).

Craft and feminism

Luce Irigaray writes in her work *Ethique de la différence sexuelle* (1984) that it is true that we are allowed to justify the overturning of certain values: nowadays craft and art are respected. But the relationship between these skills and sexual difference has never been properly thought through, and they do not diverge equally. When man has been the subject of discourse, (of theorethical, moral and political discourse), the insignificant skills like cooking, weaving, embroidery and knitting, and in special cases poetry, painting and music have been left to the woman. So important as these skills actually are, they have not been placed or regarded in a properly esteemed position, at least not openly (Finn. ed., 1996, p. 23). Thus it

seems evident that without asking questions about masculinity, which has an implicit effect on philosophical speculations of phallosentric science, the pictoral feminine side of being remains without the possibility for a time and space of its own.

An epistemological analysis reveals that a possible solution can be found with the support of feminist and phenomenological approaches to knowledge, both aiming to transcend the Cartesian or Kantian dualism, and even the monism as presented by Bergson. (see Deleuze, 1988, p. 83) Heidegger's philosophy and theory of art serves the basic assumptions necessary for the study of works of craft as individual creations. Daring and innovative combinations of different dimensions of craft make it possible to create universes which manifest open-mindedness and a preparedness to accept and understand the work of craft on both an individual and a cultural level. This does not mean insight toward a mythical 'inner' reservoir of truth. On the contrary, as Braidotti (1994, p. 160) writes, it means the multiple directions of extratextual experiences. In this sense thinking is living at a higher degree, in a multidimensional manner.

Conclusion

The most fruitful starting point for modern craft research as adapted from Deleuze's ideas, is to begin by recognizing his effort to broaden the image and process of thinking beyond dualism and a conceptual notion of identity as sameness. Beginning craft research where the focus is on an individual student's (or pupil's) own 'craftial' language and subjectivity, and then moving onto the plane where feminism, post-structuralism, art, and pedagogics intersect, will enable us to constitute a critique of the more conventional approaches. An emphasis on our cultural and educational investments in notions of cohesive, predictable, integrated selfhood and the power of authorial consciousness and control will enable us to recover female or male texts signed and authorized by female or male subjects.

References

Braidotti, R. (1994). Toward a New Nomadism: Feminist Deleuzian Tracks; or, Metaphysics and Metabolism. In *Gilles Deleuze and the Theater of Philosophy*. London: Routledge.

Deleuze, G. (1983). *Nietzsche & Philosophy*. Trans. H. Tomlinson. London: The Athlone Press.

Deleuze, G. (1986). *Cinema 1. The Movement-Image*. London: The Anthlone Press. First published Cinema 1, L'Image-Movement. 1983.

Deleuze, G. (1988). *Foucault*. Minneapolis: University of Minnesota Press. Originally published Foucault. 1986.

Grosz, E. (1993). Bodies and Knowledge: Feminism and the Crisis of Reason. In Alcoff, L. & Potter, E. (eds.) *Feminist Epistemology*. London: Routledge. 1993, 187-216.

Heidegger, Martin ([1935-36] 1980). *Der Ursprung des Kunstwerkes*. -Holzwege. Frankfurt am Main.

Husserliana I-XVI. Martinus Nijhoff, Haag 1950-1973.

Irigaray, L. (1984). *Ethique de la différence sexuelle. An Ethics of Sexual Difference*. Paris: Minuit.

Irigaray, L. (1996) *Sukupuolieron etiikka*. HKI: Gaudeamus.

Peirce, C. S. (1931). *Collected Papers*. Volume I. Principles of Philosophy. ds. Hartsborne, C and Weiss, P. Cambridge University Press.

Peirce, C.S. (1940). *The Philosophy of Peirce. Selected Writings*. Buchler, j.(ed.) New York: Harcourt, Brace and Company. London: Kegan Paul.

Rauhala, Lauri (1988). Holistinen ihmiskäsitys. (The Holistic Conception of Man). *Sosiaalilääketieteellinen Aikakauslehti*. Journal of Social Medicine. (1988:25:190-201).

Uotila, M. (1994). *Pukeutumisen kuva. Fenomenologis-eksistentialistinen lähestyminen pukeutumiskuvien tekemiseen ja tulkintaan*. (The Image of Clothing. Phenomenological-Existential Approach to the Art and Craft of Clothing). Helsingin yliopisto. Kasvatustieteellinen tdk. Käsityötieteen väitöskirja. University of Helsinki. Department of Education. Doctoral dissertation.

Uotila, M. (1995). *Pukeutumisen kuvaus. Kuvia kulttuurin merkeistä.* (Portrayls of Clothing. Image of the Culture). Helsinki: Yliopistopaino.

Uotila, M. (1996). *Käsityön muoto ja sisältö: kuva ja kuvaus.* (The Form and Content of Craft: The Image and Portrayl of Craft). Artelogi 5/1996, 10-17.

Ylimaula, A-M. (1992). *Origins of Style. Phenomenological Approach to the Essence of Style in the Architecture of Anton Gaudi, C.R. Mackintosh and Otto Wagner.* ACTA Universitas Ouluensis. Department of Architecture. 1992.

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Constructing symbols of norwegianness: how to understand the invisible in the visible

Abstract

In 1992, a Norwegian national scale prize contest related to the 1994 Winter Olympic Games was arranged, with the objective of defining symbols of "Norwegianness". This cultural event had a limited impact on our opinion about Norwegianness in the 1990-ties. But, are there more to this event than is visible? This question is connected to some aspects of Pierre Bourdieus cultural theory, and are discussed with relation to my empirical study.

Keywords: Cultural Theory, Pierre Bourdieu, Aesthetics, Construction of Knowledge

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Constructing symbols of Norwegianness: how to understand the invisible in the visible

An essential issue in Cultural Theory is to understand the invisible in the visible. Well known myths, like Oedipus, Antigone, and in the Norwegian tradition; Espen Askeladd, provide rich illustrations of hidden knowledge. The listener to such stories about brothers and sisters, children killing their fathers and man meeting trolls, is invited to make a wide range of associations. The childish story which is visible, include a moral story which is invisible. The challenge for the reader of these myths is to understand the invisible in the visible. The complexity in this challenge has increased in our western visual culture. Michel de Certeau notes that

> *"the ancient postulate of the invisibility of the real has been replaced by the postulation of its visibility. The modern sociocultural scene refers to a 'myth'. This scene defines the social referent by its visibility (and thus by its scientific or political representativeness); it articulates on this new postulate (the belief that the real is visible) the possibility of our knowledge, observations, proofs and practices."* [1]

The theme of this paper is that students of cultural phenomena are exposed to the same challenge of understanding the invisible in the visible in our own culture. For decades, the French academic field has had an formative impact on the progress of cultural theory. Today, Pierre Bourdieu is a well-known contributor. Here, I will pay special attention to some essential aspects of his cultural theory. Pierre Bourdieu started his scientific career as an anthropologist, but was also a philosopher [2], and ended up as a

[1] Michel de Certeau 1984. The Practice of Everyday Life. University of California Berkeley Press

[2] Bourdieus claimed that "Philosophy as taught in the University was not very inspiring"

sociologist. He is rooted in the thinking of other prominent French scholars, such as Claude Levi Strauss, Jean Paul Sartre, and Ferdinand de Saussure. In the tradition of Saussure, Bourdieu position himself between Levi Strauss' objectivism and Sartre's subjectivism. He finds both perspectives insufficient, and tries to bridge them. His cultural theory is an attempt to readdress the basic questions: How free are we as individuals? And, as part of the materialist tradition; How can we understand the reproduction of inequalities and values in our society?

His critique of Marxism (in "Distinction", 1984) is seen as an important part of his theory. Here, Bourdieu suggests some major methodological breaks in the social sciences. Instead of the Marxist argument that economic space is determining, Bourdieu emphasizes the relativity in social origin. Agents possess concrete and abstract properties which functions as capital, as signs, in a social space. Bourdieu's notion of class-structure leads beyond social concreteness, and towards the construction of "classes on paper". Social positionality is assumed to reside in a practical sense of belonging or not belonging in a class, habitus. Lifestyles and taste are the systematic products of habitus. He presupposes that our taste reveals our social sense, and it is therefore important to study taste in our western society. Bourdieu argues that there are elements in any culture that are neither intelligible, public nor explicitly meaningful. We must accept the idea of unconscious cultural behavior. The agent is both a structured individual and has an impact on the development of this structure. Following Bourdieu, to understand the culture is to understand this "structuring structure", a notion which epitomizes his cultural theory. These ideas underlie Bourdieu's assumption of unconscious, cultural behavior. This is the basis for a theoretical approach to the study of the invisible in the visible in our own society. It should be mentioned that Bourdieu bases his arguments on extensive collection of data. His theoretical concepts are rooted in "thick descriptions" of social fields.

A case-study; aesthetic judgment and taste in a contemporary cultural event*

From this very brief abstract of Pierre Bourdieu's cultural theory, it is probably easy to understand that there are substantial methodological problems in applying the theory in an empirical context. First, there is the obvious personal factor: the capacity to collect data is limited for single researchers. Furthermore, there is complexity inherent in the theoretical concepts, which all seems to integrate the main paradox: We tend to construct universality, but because of our partial knowledge, universality is impossible. To understand the invisible in the visible in my case study, I had to identify the historical conditions of my data, and bring these conditions explicitly into the analysis. This reflects the logic of the theory of "the structuring structure". Historical conditions and the knowledge we have, are the basis for the understanding of the specific cultural event in question [3]. For these reasons, to understand this study, it is important to be informed about the historical background for the institution involved, and about the data set in my analysis.

Tracing historical conditions

In 1992, The National Association of Arts and Crafts in Norway (Norges Husflidslag, abbreviated NH) arranged a national scale prize contest with the objective of creating and selecting the "best Norwegian products". The contest was related to the 1994 Winter Olympic Games at Lillehammer. An exhibition of the awarded products was a part of the cultural program of The Games. For me,

*An introduction to the empiric material is published in english in KASVATUS vol 24. The Finnish Journal of Education 1/93 p.55-60

[3] The methodology is important in the application of the theory of Pierre Bourdieu. To collect this kind of information, the researcher must set some boundaries: define a period, know the historical background, and being an informed user of the information. For such reasons, the self-reflective turn is an important part of the methodology. Because knowledge is connected to power, there may exist symbolic violence. In his surveys, Pierre Bourdieu applies a three-dimensional perspective: the informant, the interviewer and the interviewer as observer of the situation. In this three-dimensional methodology, the researcher or interviewer is made conscious of the "me": a subject constructing knowledge. To give an idea of the complexity in his studies, have a look at the appendices in the books "The Love of Art" 1990, and "Distinction" 1984.

this contest was an option to study the construction of Norwegianness and to understand these symbols as products of knowledge and taste in the field of cultural production.

NH's history can be traced back to the first Norwegian sociologist, Eilert Sundt, and his pioneering sociological research from 1864: "On the Home Craft of Norway". This book was an important part of the contemporary philanthropic bourgeoisie movement in several European cities. The middle class became increasingly aware of the need to improve the lives of the poor farmers and industrial workers. In accordance with such ideas, NH organized education programs for home craft producers. NH also collected, formalized and described patterns for production of "good" (canonized) home craft products. These products were sold in NH-shops located in the main Norwegian cities.

The organization had a double occupancy: the philanthropic and the economic. In the 1890's, the interest for aesthetic dimensions appeared to be more important. Museums for applied arts (Kunstindustrimuseum) were established in Norway, following the contemporary trends in continental Europe. The increased focus on aesthetic dimensions was influenced by the national romantic period in the arts. Art historians were traveling around the country, selecting the "best" Norwegian domestic craft, now called "art and craft", with art as the dominant part of the connotation. The process of naming these products has since this time been an important part of the struggle in this field. In the 1990's, NH had expanded to a democratic organization with 30.000 members and a central administration. Today, NH attempts to combine the above mentioned historical heritage with the formulation of new national symbols. The explicit rule for Norwegianness in the 1992-contest was "connection to the Norwegian tradition". This highly abstract criteria encompasses "thick" connotations.

Tracing a cultural event

My collection of data was attached to the final part of the contest. I was an participatory observer during a five month period in 1992. I observed the discussions and assessments of the jury, the official award, the exhibition and the media coverage. I served as secretary for the jury. The reflections of the jury-members turned out to be an essential and interesting source of data. Jury-members with different positions in the field (art historians, artists, designer) struggled to develop consensus on how to define and select the "best Norwegian product". They were supposed to relate their arguments to the five explicit criteria announced in the contest: "Connection to the Norwegian tradition", "Aesthetic qualities", "Good workmanship", "Correspondence between form and decoration" and "Good function". The jury was also supposed to give official statements about the awarded. The arguments used during the selection of the awarded became very important. Generally, I observed a low correspondence between the explicit rules and the implicit rules applied by the jury-members during this process. The best products were e.g. characterized by "artistic spirit", or "good workmanship". However, a specific product with high standard of "good workmanship" was characterized as "cold" and "neutral", while another product with "artistic spirit" had "fresh coarseness" because of its rough hew impress. This was a result of the lack of workmanship, but the product reminded the jury panel of the primordial domestic "craftsmanship" from the 18th century. Paradoxically this was an idea and a kind of description of a product which was constructed and canonized by the positioned with the same competence (art historians, artists and art and craft teachers) one hundred years ago. It appeared to be a substantial gap between the explicit rules and the implicit rules as constructed by the jury-members during the selection of the awarded.

The more specific objective of my empirical analysis was to clarify the content, application and significance of these implicit criteria, which were invisible not only for the participants, but also for the jury members. The implicit rules used to distinguish between the

products connotes to different historical times. The main distinction between the "best" and "no good" resembled the distinction between the "grand (distinguished) old" and the "old-fashioned". This main distinction between "grand old" and "old-fashioned", is very diffuse. The arguments for the "grand old" were highly abstract (e.g. "feeling of artistry") and connected to a historical period more than one hundred years ago. The arguments for "old-fashioned" (e.g. "too well done", "too Japanese") were more concrete, closer in time, and connected to concrete objects in modernism, i.e. more precisely to the break with modernism as exposed by postmodern art and craft in the 70's and 80's. It is possible to claim that the jury had an ethno-wave attitude in their implicit criteria. And this was (and still is) the contemporary avant garde fashion in the artistic field. Ultimately, the taste of the jury as positioned and equipped with the power to decide, became the main implicit criteria, and the selection seems to a large extent to be arbitrary. In a Bourdieu-perspective, it is striking that the historical connotations had such strong impact on the results in this contest. The history of NH's definitions of "Norwegian Arts and Craft" have an important structuring impact on the jury, at the same time as their selection seem to be highly personal and arbitrary. Or, is it more into these processes and paradoxes than is visible?

Knowledge about different forms of knowledge

The concepts of Pierre Bourdieu turned out to be very useful for me in the analysis of the above mentioned processes and paradoxes.

> *"Is it surprising that the tastes, and the good taste, of more cultivated individuals derive from the homogenous, and homogenizing, 'routionized' and 'routinizing' action of the academic institution, and, when all is said and done, are highly orthodox, and that, as Boas noted, 'the thought of what we call the educated classes is controlled essentially by those ideals which have been transmitted to us by past generations'? If the more culturally disinherited see, and express more often than the others, what seems to the*

observer to be the objective truth of the cultivated experience, it is because, just as the illusion of immediate understanding of the cultural environment is only possible within the world into which the individual was born, where behavior and cultural objects are shaped according to immediately mastered models, so too the charismatic illusion, born of familiarity, can only develop amongst those for whom the world of learned culture is also the world into which they where born. In other words, the frustrations and helplessness of those who are without the cultural 'cipher' reemphasize that understanding of a conduct or a cultural work is always a case of mediate decipherment, even in the particular case where objective and objectivized culture has become culture in the subjective sense, at the end of long and slow process of interiorization""[1].

Based on the paradox in this quotation from "The Love of Art" (Bourdieu, 1990), I ask what characterizes the *joint* enterprise of the positioned and "the others" in the specific field of cultural production from which my data is drawn. My main research interest is to produce knowledge about the "obvious" and taken-for-granted gap between the dominant and the dominated, between the homogeneity of the group with the knowledge and the power in the artistic field, and the heterogeneity of the group of "the others". All groups involved in this contest seem to possess a "charismatic illusion" of the other groups. Either as cultivated/ educated selector (the jury panel), genius creator (artists), or as barbaric (amateurs). Each group depend on the others to trust their own authenticity, and believe in the "objectivity" of the jury competence to select the "best" products symbolizing Norwegianness. The knowledge in the artistic field rely on "the eye", and the jury represent this knowledge in their selection of the awarded. The others have random knowledge, based on individual preferences. The competent are the best enculturated, they have the "right" knowledge, and are therefore most able to taste and to decide what is the best. The incompetent are not sufficiently incorporated in the specific culture through education (and habitus).

[1] Bourdieu and Darbel 1990: The Love of Art, p.59

To taste something is to "differentiate" and "appreciate". Therefore, the exposition of taste, as expressed through the specific knowledge, is as important as the exposition of taste as expressed through the lack of this specific knowledge in this context. But, as Bourdieu reminds us: to conclude "that cultivated people are people with culture is not more than a simple tautology."[5]

Bourdieu and Darbel claim that aesthetics can only be comprehended as a dimension of the ethics of class. This cultural event as a process of construction of knowledge as such, might be described as a "class-struggle" where the dominant always are the winners. Another possibility is to interpret this struggle as a *construction* process. In a democratic society, the struggle about knowledge, symbols and power is dependent on the possibility to develop consensus. It is very practical that somebody in a society has the power to decide, according to the rules. But this distributed power is only possible if the process is experienced as authentic and objective of all parts involved. The moral and democratic aspects in this national scale contest are hidden in the visibility of this contest as a set of well known events; the invitation, the explicit rules for participation, the role of the jury, the official award, the critique etc. These sets of rules and practices symbolize some main beliefs about the objectivity in the process of competent aesthetic selection in our society. This is the invisible in the visible. The specific cultural event and the production of the invisible criteria for selection which I have briefly presented here, provide an example to this overall statement.

The knowledge I have constructed about this event, gives an illustration to the impact of myths and rituals also today. I claim that the described struggle about knowledge in this cultural event; the contest and the jury´s selection of products, should be conceived of as a *ritual* for sanctioning competence and canonizing symbols. As in rituals, the set of rules and practices in this event symbolize some main beliefs in society; in this cultural event the pre-supposition that there exists some main symbols of Norwegianness

[5] The Love of Art, p 59

that are to be found. The knowledge in struggle in this event, or another cultural event, do not capture any complete, universal "truth". Rather, these struggles about knowledge in a society captures a relatively arbitrary and highly negotiated "truth" which is accepted for a limited time period. As a ritual for sanctioning competence, this event illustrates the significance and complexity of the invisible in the visible in a culture. The taste of the positioned is rooted in history and education, and formulated in highly abstracted forms which is difficult to question. The jury statements is based on the presupposition that "the others" understand what is meant by "grand old". And "the others" presupposes that the positioned knows what is "best" and "no good". Thus, all groups mutually presuppose each other, and are dependent on their joint construction of a "reality"; in this context the contest and the construction of contemporary symbols of Norwegianness. To understand the invisible in the visible in this cultural event, it is as important to look at the context, the history and the process, as at the concrete symbols themselves. This is the essential paradox in Bourdieu's term "structuring structure".

Of course, I draw only on selected parts of Bourdieus cultural theory. Being aware of the complexity in his theory and methodology, I limit myself to apply some of his concepts as analytical frameworks for revealing core processes in my empirical material. The fact that I myself is a part of the selectedness in the cultural field, is an important part of this perspectivation of the contest as a cultural event, and the production of the data set. This is the more fundamental logic in the cultural field: Positions are distributed through the selectedness in the educational system. Only the positioned have the power to select. Pierre Bourdieu is himself positioned as a consequence of selectedness in the cultural field. Thus, a challenging and important question is to what degree the positioned individual (among which Pierre Bourdieu is a good example), is the final premise for our construction of knowledge, and of the paradigms in science.

References

Borgen, Jorunn Spord 1993: *Aesthetics in Practice.* In KASVATUS vol.24, The Finnish Journal of Education 1/93, p.55-60.

Borgen, Jorunn Spord 1995: *Solid norsk sengeåkle og importert eleganse*. Paper fremlagt på Work-shop om OL-94 og forskningen, Lillehammer nov.1994. Publisert i: OL-94 og forskningen VII 1995.

Borgen, Jorunn Spord 1995: *Båtryen og Lofotvesten - Wittgensteinianisme og modernitet. Et forsøk på å beskrive det ubeskrivelige*. Artikkel i tidsskriftet Norsk Pedagogisk Tidsskrift. nr.2/3-1995

Borgen, Jorunn Spord 1993: *Norsk, typisk, unikt? Sentraltradering og mangfold belyst gjennom konkurransen "Jeg fant, jeg fant"*. Paper fremlagt på Work-shop om OL-94 og forskningen, Lillehammer nov. 1993. Publisert i: OL-94 og forskningen VI 1993, s.71-88.,

Bourdieu, Pierre 1984: *Distinction. A Sosial Critique of the Judgement of Taste.* Routledge.

Bourdieu, Pierre and Darbel, Alain with Dominique Schnapper 1990: *The Love of Art.* Stanford University Press

de Certeau, Michel 1984: *The Practice of Everyday Life.* University of California Berkely Press

Sundt, Eilert 1975: *Om husfliden i Norge.* Oslo: Gyldendal norsk forlag

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Rudiments of a sloyd pedagogy

Abstract

The formal-educative pedagogical justification of introducing sloyd into Danish schools about the turn of the century would seem to be still going strong within present-day sloyd practice. A practice; which is predominantly anchored to actually exercised routine practice and the practical knowledge derived from it. In conjunction with the absence of proper didactics for the subject, this gives rise to a pedagogical backlog, as viewed in the light of the current cultural modernization. The increasing contingency explodes the traditional curriculum and demands a critical, explicit formulation of what is actually at stake when sloyd is being put into practice. The article offers a proposal as to what paths might be taken.

Keywords: social and cultural, reproduction, reason, knowledge, habitus

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> *"In a word, the foundation on which the Sloyd School is based is: To aim at getting physical work legitimated as an educational, strengthening, and improving power."* (Mikkelsen, 1884, In Nielsen, 1986))

According to Aksel Mikkelsen (1849-1929), blacksmith, machine manufacturer, and the founder of the Danish Teacher Training Centre for Sloyd, Craft and Technology, the basic ideology and purpose of the subject of sloyd were that in itself practical activity with manual work (through the very process) created the basis for the cultured and morally responsible person in society.

> *"...It is not after all the task of the primary school at any time to convey an actual professional education; its task is to develop such abilities and skills in the children as have a general human value and as are altogether required in life. And that is what sloyd does... Sloyd develops the children's self-activity which is of great importance for their development as personalities; it develops and refines their ability to use their senses. Through practical work the child learns how to judge, to observe, to compare, to investigate, to experiment and to invent. It is a natural and obvious task for the children to see that the things they are making will become as good and beautiful as they can be. In most other school subjects, most children will be driven by a sense of duty; since the result of a sloyd class is an object; which the boy is to own and bring home, the interest that this arouses in the boy will in itself make him hard-working, precise, meticulous, and cleanly. In this way a sense of work, a love of work, which is of great value in life, will develop in the children. Sloyd, finally, also gives the children a direct, physical education."* (Mikkelsen 1895).

This formal-educative justification of the subject was unreflectingly reinforced by the successors of Mikkelsen to such an extent that Georg Kerschensteiner's theories of a working school and the currents of reform pedagogy of the 1920s and 1930s remained a closed area to the sloyd issue.

The following decades saw no improvement, as the teachers of the subject continued to inculcate technical skills and a knowledge of the various materials through stern discipline and strictness - methodically and keeping stroke. Practical activity for its own sake, which is to be explained by, among other things, the school's then functioning monopoly of knowledge, which was secured by the prevailing culture of work and duty, within which the school perpetuated these virtues institutionally.

The social-democratic modernization campaign of the following decades meant that to a certain extent the school culture was aligned with the requirements of industry, yet in a somewhat formalized form. Sloyd kept up with the creative boom of the 1960s to some degree, but nevertheless it was still not taken seriously. While the school's other practical/aesthetic subjects were assigned to Danmarks Lærerhøjskole (The Royal Danish School of Educational Studies), which implied an obligation to do research, sloyd continued a relatively autonomous life at the two sloyd schools; Askov Sløjdlærerskole, later Sløjdhøjskolen in Esbjerg *(Academy of the Danish Handicraft Guild in Esbjerg)*, and Dansk Sløjdlærerskole *(The Danish Teacher Training Centre for Sloyd, Craft and Technology)*, the latter being the only school in the country which offered further vocational training for sloyd teachers in Denmark. The sloyd schools are debarred from research opportunities by the Ministry, as this obligation is solely entrusted to Danmarks Lærerhøjskole (The Royal Danish School of Educational Studies), which however as of this date has not yet undertaken this task in spite of the establishment of the subject-oriented pedagogical MA degree in sloyd. (See Holmbäck/Broge, 1993). In this respect Denmark is sadly set apart from our neighbouring countries in Scandinavia, which have all in varying degrees initiated research within the sloyd area.

The teaching at the colleges of education

The lacking scientific basis of the subject has entailed an instructional approach at the colleges of education, which is predominantly justified by a traditional, person-bound and very often rather unreflecting practicism, by which knowledge and experience as to the techniques and methods are conveyed from teacher to student teacher, from generation to generation, by way of exercises in the, well-known series of models.

On this basis the education of the majoring students at the colleges and of the course participants at the two teacher training centres has had a widely instrumental (Peters, 1980) character centred on skill learning, in which means and ends are connected to each other in an external relationship. Furthermore, pedagogical and didactic considerations are left to the individual teacher's personal judgment and possible pedagogical involvement, because of the absence of sloyd-pedagogical theory.

In practice, the teaching of the majoring students at the colleges has been sustained by an insistence that the purpose of the whole thing was to practise accuracy, systematism and vigilance regarding a reproduction of fixed and previously defined and targeted sloyd objects. The course culminated in the so-called 6-hour test in sloyd (abolished in the summer of 1996), by which in proper apprentice style the student was tested in his or her mastering of traditional craft closely akin to the methods of the carpenter, of which assembling techniques of the past were to form part.

To a large extent the consequence of these conditions has meant that rather uncritically, and without outside interference, sloyd has reproduced itself into a practice in today's school, which is not far from the original thoughts and methods from the turn of the century.

The formal-educative backlog

The notion of the formal-educative principle has followed sloyd from the turn of the century, and up till today it has controlled the

educational considerations which every now and then appear on the sloyd scene:

In a compendium for the sloyd students "Smedning - en kulturteknik" (Forging - a cultural technique) from the Jonstrup State College of Education 1989, the following is on record about the pedagogical application:

> *"There are several reasons why it is not sufficient to talk about forging. The most important ones concern the various forms of value that are connected with practical work.*
>
> *SUBJECTIVE VALUES*
> *(...)*
> *Anybody who has 'struggled' with the creation of a practical object, and through this struggle has discovered the notion 'I can do it', will have a feeling of the developmental values.*
> *(...)*
>
> *OBJECTIVE VALUES*
> *... when in the primary and lower secondary school (the Danish Folkeskole) we occupy ourselves with practical forging, it is not exclusively because of the economic value and the development of identity, but it is also in order to use this 'practical episode', this experience of materials and tools to 'open up' for a personal perception and understanding. When you have stood with the heat of the forge against your face and the ring of hammer and anvil in your ears, then you know something about the kinds of feelings and thoughts that this can stir up."* (Daniel 1989, p. 45) (Daniel's underlinings).

I do not intend to question Daniel's words. He is sincere! But how do I get to experience the same thing?

Any professional culture contains various kinds of 'internal' values, various kinds of shared perceptions as to specific atmosphere-satiated experiences, pertaining to the aesthetic, which can barely be made explicit. The enthusiasm for the sublime, the much coveted which will appear on rare occasions to the persistent seeker, is a

fundamental motive power for a subject and its practitioners. This is fundamental to the identity of a subject and the potential possibility of encouraging newcomers.

If enthusiasm is lacking, only mediocrity remains - together with a great number of shoddy explanations, which I have listened to myself throughout my own school years. But who is able to keep up the enthusiasm if the course deals with the same dull sawing exercises year after year?

Daniel is certainly enthusiastic/"hooked". That is what he wants to communicate in his text, but if I look at the text with different eyes - in an attempt to register some educational content - I must admit that I can also interpret the not specifically defined assertions of *'personal perception'* and *'developmental values'* as formal-educative in character. Incidentally, Daniel himself problematizes the formal-educative backlog of the subject elsewhere. (Cf. Daniel 1993)

This (possibly unintended) insistence on the formal-educative aspect must be understood in the light of, among other things, the self-reflective isolation of the subject. Unlike many of the other school subjects, sloyd does not, have a scientific discipline to 'lean on' in its need for justification, which means that in its justification compulsion (as a school subject), along with textile crafts and other practical-aesthetic subjects, the subject is easily forced to search for its legitimation in the available pedagogical slogans. In the 1960s it was *in* to develop the aesthetic-creative aspect, which many of the practical-aesthetic subjects adopted as their distinctive feature. Today a widespread and most often unexamined view also prevails among school teachers to the effect that these subjects, besides being creative, assume a particular position as the framework of aesthetic learning processes, to a larger extent than in the school's academic and theoretical subjects, which mainly operate with cognitive learning processes (See Schou, 1990). This separation between the aesthetic and the cognitive aspect as being completely independent of each other is a tragic educational-ideological reality, which makes school work unnecessarily difficult. However, even though neoliberalistic educational economists attempt to organize life in this way, that does not mean, after all, that learning processes are

submitted to such principles. (Incidentally, surveys show that exercising one's profession is rarely done in accordance with a normative ethic (such as the educational-ideological externalized interpretation of the nature of the educator's work), but it is to a larger extent handled on the basis of a habitus-dependent (Bourdieu, 1990) 'practical sense', which evolves spontaneously. (Cf. Andersen, 1995))

Towards the end of the 1980s, a great number of development projects were carried out under Folkeskolens Udviklingsråd (the Development Council of the Danish Folkeskole). During the subsequent evaluation, for example in connection with the justification of the practical-aesthetic subjects, these subjects unanimously stated that they understood their most significant function as being subjects which were particularly 'personality-improving'. In the overall professional-pedagogical summary of the final evaluation reports, critics are somewhat sceptical of these assertions:

> *"...the problem is that when all is said and done we do not know whether or not these subjects are actually personality-improving. In order to arrive at an answer it is necessary to reach an agreement as to what is understood by 'personality', and this discussion has never been carried on in the case of these subjects, at least not if one will not settle for a definition of 'personality' as a set of human virtues. That was quite possible a century ago, but it will not work today."*
> (Jensen et al., 1992, p. 128).

Personality-improving or not?
The concept of knowledge and the educational considerations within the subject of sloyd are in any case a blurred entity in the absence of an actual theory formation as the basis of what is to take place in the classroom, or what the instruction is to impart to the individual pupil. As a matter of fact this is a question which has to be revalued by most subjects in the light of the cultural modernization, which has generally made it difficult to be cocksure as to what kind of thing knowledge is.

The ring of hammer and anvil

If the reader recalls the "ring of hammer and anvil", including my contentions about the absence of applicable professional-didactic considerations, I should like to add some further comments to the quotation, seeing that I find that to a certain extent the themes of sloyd are tackled with a self-understanding (the so-called pre-conscious, Bourdieu, 1979), which is bound up with a technical, material-oriented, and distinctively masculine fascination, in which the 'pleasure' of the working process itself is taken for granted by the teacher and is considered as a an intrinsically motivating power. The ready consequence is that the theme is made subservient to the product, and the deeper meaning disappears unless the pupil possesses a habitus (cf. Bourdieu & Passeron, 1990) which corresponds with that of the teacher.

Thus a teacher of sloyd reports today:

> *"In sloyd it was formerly possible to make the children stand and work with the various objects, until they had a good and complete product, which they were a little proud of. Now they often say: 'What the hell am I going to use that for?' and then you get the impression that they are doing it for the teacher's sake if anything. The soul is not in it anymore... I get distressed at seeing the rootlessness and selfishness which have arisen among children... I am completely powerless against them. I can force the children, I can force them to go to the workbench, but I do not want to be the kind of teacher who does that... In those cases, you feel that you cannot cope..."* (Jacobsen, 1989).

The teacher in question has obviously given up hope. His instruction practice has been overtaken by the cultural emancipation, which has made the children's demand for significance seem more sensible than selfish, as the teacher construes it. If the product target encroaches on the possible aesthetic potential of the process, it will often refer to and maintain exaggerated and unexamined socio-cultural/school-cultural reproduction contexts, which will exclude outsiders from actual participation, since the work precisely does not by itself make sense. When the old working instruments, methods and their utility values are extracted from their original socio-cultural age and are

reproduced in the sloyd room in a post-modern everyday life, the original context of meaning is obscured, the product is individualized, reified, and it becomes meaningless as a learning process. The conception is self-contradictory. The children think that it is *tedious*, and the teacher reasons that *the soul is not in it anymore*.

The teacher, as a carrier and communicator of culture, is an important agent of social and cultural reproduction. What appears culturally 'obvious' to the teacher, may be experienced by the children as a form of alienation. The cultural plurality, which the pupils represent by their mere presence in today's school, must be faced with openness, and not blocked 'pre-consciously', as it were, by the teacher's own self-understanding. It is the adults who must oblige the children, and not the other way around: the children having to understand the teacher's motives, at least not as a point of departure!

There are many indications that if a subject like sloyd is to survive, i.e. justify itself in terms of contemporary rationality, then it must appear to the participants as 'spacious', so that the particular culture which the subject and its teachers represent is not a 'must', but an individual experience, which can inspire and be used in a cultural progressive development/re-orientation.

Reason

In the classical division of the world into three independently organized knowledge areas, i.e. science, the *cognitive-instrumental* - moral, the *moral-practical*, and art, the *aesthetic-expressive*, each a professionally processed knowledge complex with a systematic regularity, an independent history and a distinctive character of its own, the scientific, so-called objectivistic conception of epistemology defeated aesthetics. Aesthetics was isolated in the power monopoly of the artistic production area.

In terms of the life-sphere the initiative of the individual subject was expelled into 'private' activities, categorized as a hobby and pastime, seeing that the gained (cultural) rationalization does not successively

flow to the life practice of everyday life. Where the cognitively compiled potentials should ideally be made applicable to a sensible shaping of life conditions, this is instead prevented by the autonomous systematics of the differentiated value spheres, which - separated from everyday life - cannot individually and in isolation be retrieved meaningfully for the life-sphere. (Cf. Habermas, 1981a)

However, from the empirical foundation validating science, in step with the increasing context-openness of cultural modernity, a shift has occurred in our general perœption of those criteria which are to define reason. A shift which demands the inclusion of ethical, emotional and aesthetic factors as rationality-carrying elements in possible interpretations of existence.

In a survey of Danish values, P. Gundelach and O. Riis have ascertained a 'negotiation morality', as they describe it. A morality which is justified procedurally:

> *"It seems that the negotiation morality is a general and evenly diffused value, which has achieved greater significance throughout the 1980s. It has probably something to do with the fact that ethical and moral questions have appeared more often in the current debate, and that it has become clear that no collective single conœption of morality exists. We live in a pluralistic society, where the discussion, the conversation, become essential media for the decision on moral questions. This implies that to a lesser extent than before the population accept an external authority (such as somebody's superior). The individual himself wants to participate in the discussion as to which actions must be carried out."* (Riis/Gundelach, 1992, p. 58f).

Knowledge

Sciences, theories, and empiricism still have validity, but they increasingly have to operate with urgency criteria in acknowledgement of the fact that science and science proœsses cannot be accepted any longer as a compulsory, pre-defined relationship between

Subject and *Object*. Thus knowledge must not only live up to empirical requirements, but must also be submitted to ethical and aesthetic demands.

Furthermore, a general breach has occurred in the individual´s use of an ever-increasing supply of knowledge and information. Information technology tends to break down the former authoritarian hierarchy-structure of knowledge: information technology does not tie itself automatically and unambiguously to a hierarchically organized technocracy, where the knowledge monopoly in the form of 'rational' and 'approved' knowledge, transmitted and communicated by the educational system, is the most important prerequisite for the exercise of power on the part of the professional/expert culture.

The dissolution of the cultural unambiguity, which is the core of modernity, creates unrest, particularly within the educational systems, which are already burdened with a cultural backlog. Knowledge and norms have become volatile products, which are increasingly perœived as arbitrary: something different might just as well be happening!

Knowledge has become dependent on a normative selection. The notion of value-free science is undermined daily by the production of risk and erosion of life forms which are caused by the industrial society itself. Scientific reason has empirically become unreliable in relation to ordinary 'common sense', social reason, and it no longer rests upon a secure social tradition such as the school. The increasing sense of contingency threatens and in the long run outstrips a traditional practice felt to be unreliable and requires renewed reflection.

When reality is increasingly perœived as an arbitrary social construct, practice will acquire the character of work and become individualized. This individualization dissolves the former cultural consensus.

The sub-cultural forms of consciousness which have characterized sloyd, among other things by dint of a shared class habitus (my

contention), are dissolved and demand a new self-understanding, which is no longer based on formerly acknowledged practice forms, but which must be developed and traced in the actual, performed work while it is going on. The process aspect becomes meaningful and assumes a decisive significance as a motive power for the subjective formation of experience and identity.

The traditional curriculum is exploded

On this basis it becomes increasingly difficult to prescribe practical action guidelines for concrete instruction contexts. The criteria for a subject-oriented didactics cannot therefore be mechanical anymore, but must necessarily be subordinate to general educational considerations, which for their basis operate with *form* rather than a descriptive *content*.

The growing amount of knowledge and its rate of turnover give the idea of a general education another character than what we have previously operated with. The knowledge of our age can no longer be reliably represented in one curriculum. It can only be canonized, as the neo-liberal educational-political forces are attempting to do. Education therefore becomes an abstract, volatile and ambiguous concept, inevitably making any curriculum contingent. The content will always be able to be adjusted according to local needs, which abolishes general education as we traditionally know it. Instead, social and cultural structures are outwardly differentiated so that action contexts are liberated, demystified with the possiblity of being rendered rational, which may open up possibilities of realizing social needs at several levels. Science and norms become a plurality, within which the conversation between people about what is right and wrong becomes a central factor.

With Habermas (Habermas, 1981a) it is possible to say that a change of paradigm takes place from a subject theory to a social theory about a communicative ethics, a discourse-ethics, which implies normative requirements regarding procedure, solidarity and respect. Norms should only be valid when they can be accepted by all those involved in a given practical discourse. Such a communication-theoretical

reconstructed action concept should hopefully ensure that every truth is provisional.

Habermas´ universal-pragmatic (Habermas, 1981b) programme can be criticized for being idealized, as well as for its possible implementation being quite a distant prospect. That maybe so, yet his claim for communication is an inspiring socio-philosophical reference with a certain consistency, which can uphold the idea of an honourable and non-paternalistic view of human nature as a central politico-pedagogical theme.

With universal-pragmatics as our point of departure, we can be inspired to create subject-matter for the educational meeting, which for obvious reasons has to be quite an above-board project, where there is no pre-fixed list of results. A meeting which opens up the opportunity of letting the participants decide for themselves what is to take place in terms of subject-matter. (Cf. Schou 1995)

If we are to handle and confront the reality outlined here educationally, a change of teacher role from the one we know is called for. The teacher´s future competence will be characterized by the fact that he has to realize that he has not got the answer off pat, that he must be able to handle situations to which he does not know the answer beforehand, that he will be obliged to work on himself constantly, on cooperation with his colleagues, on common goals, etc, which is unaccustomed, time consuming, and laborious.

Starting point

The reason why I have chosen to name my project "Rudiments of a sloyd pedagogy" is that as a point of departure I consider sloyd a subject with many qualities, which a considerable number of people are deeply engaged in for reasons which I find very sensible.

If nevertheless I choose to spend so much time on the negative aspects of the subject, it is because sloyd is a school subject which must initially approach the pupils on a wide basis and necessarily has to be justified as a pedagogical project sustained by a certain amount of

rationality. This is apparently difficult for this subject, among other things because it is rather a 'verbally deprived' subject. It has no particular tradition of making explicit and justifying its knowledge forms to the outside world, and when this is attempted, it does not quite hold water.

At the same time it is also a subject which is struggling to eke out a miserable existence as seen in the perspective of the other subjects in the curriculum. The subject has the character of a low status subject. There are several reasons for that, but that gives no grounds for thinking that sloyd does not have anything to offer in a larger school perspective. I believe that it does, but prior to describing such a suggestion for a sloyd pedagogy, it seems relevant to me to describe practice with possible pedagogical reflections arising out of it.

In the above I have outlined a number of problematic issues, which characterize the subject of sloyd. Furthermore I have briefly indicated aspects of modernity that highlight a number of criteria of what challenges school, subject, and education are to cope with in the future. It is obvious that in many areas the current practice is facing demands of renewed deliberation.

A subject like sloyd is in many respects in a situation in which the subject must rediscover itself by realizing which pedagogical and political issues are central, and under what conditions these must be dealt with.

On the one hand, the subject suffers from not having any scientific basis to reflect upon. On the other hand, in comparison with the other school subjects, this special position may in the long run turn out to be quite useful, since it may be possible to rediscuss the subject without having to grapple with the theoretcal - often very heavy and inflexible - hierarchical superstructure which many of the school's other subjects have by virtue of being heirs to scientific disciplines. Sloyd has its tradition to struggle with, but at a certain point there is 'free scope', since there are no appointed authorities with the correct opinions, whom it would be unwise to fall foul of. (At the same time, I shall in no way underrate my own conditions as a researcher, seeing that the development of the problem formulation and the

prerequisites for answering it evolve within the framework of a given scientific practice).

By switching to a communication theory as the **starting point** for an analysis of sloyd as a specific professional culture, the researcher's 'eye' is problematized: who is to problematize what on what grounds? What perspective should be applied to the analysis? From where can the qualifying inspiration be obtained? Who knows something and on what basis? How can we decide what is relevant and on what criteria?

The subject being in this situation, I believe that it would be a misunderstanding and certainly not very helpful to elaborate and impose an externally controlled didactic framework upon the subject, as such a framework - in spite of its possible cogency - would float in its rhetorical loneliness without any significant possibility of pleading for a change of current practice.

Prior to a theory-development regarding the possible utility-aesthetic potential of sloyd, it seems imperative to try to understand and explain what exactly is at stake when sloyd is performed. What is the opinion of the teachers of the subject?

Here I am not aiming at a number of spontaneous answers, or to syllabus-oriented rationalization.

Sloyd and related work (generally) must plausibly be considered as a given social practice, which to a certain extent exists because it makes sense to the participants. Here I am referring, among other things, to a large array of committed teachers, children, young people (recreational classes) and adults (continuation schools), who work with the subject of sloyd from inclination, which does not automatically guarantee pedagogically planned successful schooling processes!

Problem formulations

Sloyd does not have its roots in a scientific subject, but is to a marked degree anchored in a routine practice, and the practical knowledge derived from it. Among other things, the purpose will be to acquire descriptions of the existing practices with a view to understanding and explaining what conditions can reasonably be said to sustain the existing sloyd practice.

Such a practico-theoretical research approach, which is based on, among other things, Pierre Bourdieu´s scientific theory of practice and knowledge (praxeological theory, cf. Bourdieu, 1990), should hopefully make us wiser regarding an understanding as to why in a school context we have a specific sloyd-pedagogical practice. What background factors have been and are still decisive for this practice, and what conditions do actually define a sloyd practice? Surveys must be undertaken with a view to disdosing conditions which are considered as given and self-evident by the teachers of the subject, but which - in an educational perspective - may be obstructive to pedagogical reflection.

If the subject, and parts of the self-understanding which carries meaning for the individual in the exercise of practice, are thus exposed to a critical explicit statement of the scope for action of the existing practices, a theoretical platform could be worked out for the initiation of a critical stance on the existing subject-didactic considerations. An insight, which could further possible strategies of change permitting enthusiasm to a greater extent than is the case today. With a starting point in an analysis of the presented contentions, I would like to concentrate my research on the following problematic issues:

A: How can sloyd practice, which is in unconsciouly motivated command of formulated and formally pedagogically justified activities, be comprehended and described?

B: What conditions make actions and practice meaningful (in themselves) when they are exercised? And how can an explicit statement of this promote the development of a sloyd pedagogy?

Method:

A: *Empirically rooted research comprising an insight into the theory* orientations which are claimed to have formed the basis of sloyd as a school subject. What are the reasons why sloyd, in its explicit form, looks as it does, and what political/ideological steps are being initiated in order to maintain the legitimizing role of the instruction?

B: Concurrent reflection upon the researcher´s own research practice and the attendant self-understanding (objective, quantitative, and structural). The development of the problem formulation and the prerequisites for answering it often evolve within a scientific practice, which is dependent on social power relations, the production conditions of society, and political structures. A battlefield where different theoretical positions with different interests fight for the right to define what pedagogy is (Cf. Bjerg, 1994)

C: The analysis of the practices must, as a point of departure, be undertaken in accordance with the self-understanding/practical sense that the practitioners themselves evince (in the form of an internalization of objective life conditions and action possibilities). This is necessary in order to be able to find and understand the horizon of meaning that is valid in the field (cf. Holmbäck, 1990) and which is meaningful for the social and cultural reproduction of the individual (in the form of subjective dispositions acting as practical (silent) schemata, which direct observation, thought, judgement and action (subjectively, qualitatively, and phenomenologically)). (Cf. Bourdieu, 1973)

References

Andersen, Peter Ø (1995): *Pædagogens praksis* Munksgaard / Rosinante, København.

Bjerg, Jens. (Ed.) (1993): *Uddannelser i Danmark og deres pædagogiske teori.* Roskilde Universitetscenter, Roskilde.

Bourdieu, Pierre (1973): *The tree forms of theoretical knowledge.* In: Social Science Information 12, pp. 53-80, Paris.

Bourdieu, Pierre (1984): *Distinction. A social critique of the judgement of taste.* Routledge & Kegan Paul LTD, London.

Bourdieu, Pierre (1990): *The Logic of Practice*. Polity Press, Cambridge.

Bourdieu, Pierre & J.-C. Passeron (1990): *Reproduction in Education, Society and Culture*. Beverley Hills, California.

Callewaert, Staf (1992): *Kultur, pædagogik og videnskab. Om Pierre Bourdieus habitusbegreb og praktikteori*. Akademisk Forlag, København.

Daniel, Willy (1989): *Smedning*. Jonstrup Statsseminarium, Jonstrup.

Daniel, Willy (1993): *Forholdet mellem almen didaktik og fagdidaktik - med sløjd som eksempel*. I: Schnack, Karsten (Ed.): Læreruddannelsens didaktik 3. Didaktiske studier, bind 8. Danmarks Lærerhøjskole, København.

Gundelach, Peter & Ole Riis (1992): *Danskernes værdier*. Forlaget Sociologi, København.

Habermas, Jürgen (1981a): *Theorie des kommunikativen Handelns*. Bd. I & II. Suhrkamp Verlag, Frankfurt am Main.

Habermas, Jürgen (1981b): *Hvad er universalpragmatik?* I: *Teorier om samfund og sprog*. Gyldendals Sprogbibliotek, København.

Holmbäck, Mikkel (1990): *50% maler 50% musiker 100% kunstner*. Overbygningsuddannelse, emneområde 1 & 2. Institut for Pædagogik, Københavns Universitet, København.

Holmbäck, Mikkel & Gert Broge(1993): *Syllabus for the Technical Disciplines of the Technical/Pedagogical Education for Candidate of Woodwork*. Kasvatus, The Finnish Journal of Education, Supplement 1/1993 vol 24, Jyväskylä.

Jacobsen, Bo (1989): *Fungerer lærer-uddannelsen*. Undervisningsministeriet, København.

Jensen, Bent Brandt; Nielsen, Mogen & Steenstrup, Jens Erik (1992): *Folkeskolen: Visioner og Konsekvenser*. Folkeskolens Udviklingsråd, København.

Mikkelsen (1895): Sløjden og dens Beydning som Skolefag. et pl'ar Ord til Hjemmene. Ingår i M. Nielsen (1986): *Sløjd. Træk af fagets idehistorie*. Dansk Skolesløjds Forlag, København.

Nielsen, Mogens (1986): *Sløjd. Træk af fagets idehistorie*. Dansk Skolesløjds Forlag, København.

Peters, R. S (1980): *Uddannelsens filosofi: Udvalgte artikler*. Nyt Nordisk Forlag, Arnold Busck, København.

Schou, Lotte Rahbek (1990): *Undervisningens æstetiske dimension.* In: Nordisk Pedagogik 1-2/90.

Schou, Lotte Rahbek (1995): *Almendidaktiske Betragtninger.* Danmarks Lærerhøjskole. Pædagogisk-psykologisk publikationsserie nr. 96. Emdrup.

Thyssen, Ole (1994): *Kunst, kommunikation og etik.* Handelshøjskolens Forlag, København.

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Craft and design (slöjd)

- sociocultural reproduction and new creation

Abstract

In a multicultural society the students come to craft and design education with different cultural and social backgrounds. The students' and teachers' experiences are reproduced and transformed, and produce new knowledge about human activity. This article is kept together under the theme sociocultural reproduction and new creation and contains main results from the Swedish evaluation of the subject craft and design (slöjd), results from students' and teachers' diary notes and the result of the analysis of the students' participation in the work processes in craft and design. A short report from the current craft and design research together with video recording from craft and design classes is treated from the same aspect.

Keywords: craft and design, slöjd, cultural traditions, evaluation, diary, video recording.

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Craft and design (slöjd)

- sociocultural reproduction and new creation

In a multicultural society the students come to the craft and design education with different cultural and social backgrounds. Through human activity in the form of different experiences and conceptions, the knowledge of craft and design is maintained and developed on different as well as common valuation principles. Many of the educational and cultural traditions that were previously passed on at home have disappeared because of the change in society. Today the student's domestic surroundings can look very different due to various life styles. The effect of the craft and design training at school is generated differently in different homes. Attitudes and valuations from one's conditions during one's adolescent years are considered in the craft and design training at school. Through human activity in the form of different experiences and conceptions, the cultural reproduction and cultural changes in both craft and design products and craft and design processes are reflected. (Johansson, 1995)

Due to the fast development of society and the changes in the curriculum, the content of craft and design education has in time been directed towards the complete development of the student. The historical background of craft and design as a utilitarian subject has contributed to the fact that the interest up until today to a large extent has been focused on the finished craft product. Skills, such as thinking, reasoning, and problem solving, have become more and more important, both in personal life and in order to handle future working life. Factors in society, such as the view on industry versus handicraft, issues of gender and equality, economic views on "buying-ready-made" versus "make-it-yourself", needs for general practical knowledge in daily life, internationalisation and environmental aspects, have also been of importance for the framing

of the craft and design subject. In *Slöjdämnet i förändring 1962-1994* (Borg, 1995), the author describes how the subject has changed and is still changing concurrently with the students' changes and the new demands of society. Whatever the changes, the dissertation points out three aspects which together could form the core of the craft and design subject; to make something in the material of the craft and design, the idea of the craft and design process, and the importance of the sensual experiences (p. 152). Further research is needed to be able to re-evaluate craft and design as a utilitarian subject and examine how "the utility" can be of both material and immaterial formal character.

In the Nordic network of researchers *Sloyd competence in Nordic culture (Slöjdkompetens i nordisk kultur)*, research in the life forming function of craft and design is presented and discussed. A basic assumption is that craft and design can contribute to both general and cultural competence, that it creates an identity and gives people a desired life quality (Lindfors & Peltonen, 1995). In Finland, models and theories within sloyd education and crafts science have been developed during the last few decades (Lindfors, 1995). New models have also been designed from the analyses of the craft and design at school as a system of activities (Malmberg, 1995). Those research results have, to a large extent, contributed to the description of craft and design.

Swedish evaluation

During 1992 The Swedish Board of Education performed a national study (NU) in grade 9 in order to evaluate the situation in the Swedish comprehensive school. Ten thousand students together with teachers, principals and parents participated in the study where all school subjects were included. The results of the NU study are available in about twenty reports. A great deal of information has been extracted from this evaluation. Research results from Swedish craft and design training have been made to a limited extent. Thanks to the NU, evaluation results appeared that showed what students and teachers think and how they perceive the craft and design training. Through this evaluation, craft and design as a

subject was made politically and scientifically public. The evaluation of craft and design also added new impulses and was brought forward as an example in several situations.

In addition to the main report on craft and design (Skolverket, 1993), the diaries that were kept by students and teachers were also analysed (Johansson, 1994). From these results, a deeper analysis was performed concerning knowledge and working methods (Skolverket, 1994). The report *The work processes in craft and design – working methods and knowledge* is printed in both a Swedish and an English version and is used in international situations.

The evaluation of craft and design has been performed in different parts. The evaluation instruments consist of a *Questionnaire 1*, a *Teachers' questionnaire*, and a process study which was carried out with the help of *Diary notes* and a follow-up questionnaire, *Questionnaire 2*. The study was carried out with the same purpose and questions whatever the craft (textile craft, woodwork and metalwork). The evaluation of craft and design has taken place within a nationally representative sample where 1,314 students have answered Questionnaire 1 and 101 teachers have answered the Teachers' questionnaire. Two hundred students and their teachers have kept diaries during a ten-week period and 182 out of those 200 have later on answered Questionnaire 2. The non-response was small and can almost totally be explained by normal absence. The validity and reliability of the evaluation instruments are examined nationally and in the Nordic countries. The goals of the curriculum in Lgr 80 and the content of the main parts formed the basis for the design of the evaluation instruments. The evaluation had as its purpose to illustrate how the intentions of the curriculum showed up in the teaching in a practical way and to give an idea of the students' knowledge, skills and attitudes. (Skolverket, 1993)

In the NU evaluation, both perceptions of knowledge and attitudes about craft and design were presented. The main report shows that the students have a very positive attitude towards craft and design. The students also think that they have learnt to work independently, to solve problems and to feel joy about something they have accomplished themselves. Craft and design is one of the subjects in

the evaluation, where the students feel that they have some influence. The survey supports the statement that craft and design is an important resource for the Swedish school. Many of the goals of the curriculum are realised in craft and design. (Skolverket, 1993)

Diary notes

In the report about the diary notes (Johansson, 1994), the results from the deeper studies of students' and teachers' diary notes from craft and design are presented. The purpose of the diary writing was to give a better and more varied picture of the work in the classroom for craft and design through the students' and teachers' own words, to evaluate the work process in craft and design and to let students and teachers describe the normal craft and design teaching during a regular ten-week period without placing the students in a test situation. The students described what they had done, what problems they had encountered and how they had solved them, how they felt and what they thought their feelings depended on. The diaries became a self-reflection of their own work. The diary notes consist of 1,614 diary situations. Through repeated readings the material fell into different categories. An ambition has been to try to understand the whole that each diary reflects and to describe, through categories, the message that is presented in the text.

Solution of problems, perceptions of knowledge, feelings of participation in the work process, comfort and well-being, emotional experiences, interaction patterns and thoughts about diary writing were described in the diaries. The documentation of the craft and design training has not been done in this form before. It is interesting to have the work in the classroom described by the people present. By allowing the students to write while still in the classroom, the evaluation took place as part of the daily activity. The environment – the classroom, the equipment, the machinery, the smells and various sense impressions, the friends, the craft objects – is present while writing. The diaries have surpassed the expectations from the evaluation of a subject like craft and design by keeping diaries. Students and teachers describe in an excellent manner during a ten week period the inner and outer activities

taking place in the classrooms and also illustrate students' and teachers' understanding of their own craft and design activity. The diaries are permeated with the fact that the students like craft and design, that craft and design teaching can be very different and that the working methods vary. The craft and design process is well described and the problem-solving is best described when the students have worked with products where they have used their own ideas. Getting the work in the craft and design classroom documented in both students' and teachers' own words can give a renewed understanding of what we believe and take for granted takes place in the classroom. The report should be seen as a contribution to basic research concerning craft and design. (Johansson, 1994)

In the diaries that were kept during a ten-week period in craft and design, the students and teachers very well describe both the craft product and the craft process in which that product is made. In craft and design the students visualise their craft product made within the near future. The craft object will perhaps be used or given away as a gift. The object may also be saved for the future, the work gets an identity as a "cultural product" interaction between human beings. The craft process – to choose, plan, carry out, and evaluate – in school then continues as a process at home. The craft object and the knowledge one has received through the process of the production is valued at home. In the diaries, the students describe how the process continues both inside and outside school. In older times, the parents spent a large part of the day together with their children. The children were taught in the same surroundings, where the knowledge was to be used. Today, work - school - leisure time are separated from each other in a completely different way. The diaries show the students' various valuations of their craft work. Perceptions and valuations from the home environment can influence the way a student looks at craft and the way a teacher treats these valuations at school. The student's social aptitude is dependent on the level of development, but also the traditions and leisure activities they have learnt at home and in their environment. Knowledge and cultural traditions are reproduced and created anew. (Johansson, 1994)

Below you will find two examples from the 1,614 diary notes:

Slöjdtillfälle 2

Idag har jag fortsatt mitt arbete på ett skåp (komb. skåp o hylla, egentligen) som jag påbörjade i 8:an. Skåpet skall pluggas ihop. ⇒ [ritning] Jag stötte på problem när det gällde ihopsättningen - pluggningen. Övre delen är lite ojämn och nästa gång kommer jag borra hålen, där pluggarna sätts, djupare. Då kommer jag vara färdig för att limma och sätta samman. Sarnhylla och skåpluckan återstår sedan.

Craft situation 2

Today I have continued my work on a cabinet (really a combined cupboard and shelf) which I started in the 8th grade. The cupboard will be pegged together. (drawing). I got problems with the assembly – pegging. The upper part was a little uneven and next time I will bore deeper holes where the pegs are supposed to go. Then I will be ready to glue and assemble. After that the small shelves and the door remain.

Slöjdtillfälle 3

Idag har jag justerat. D.v.s. gjort hålen djupare som jag pratat om. Det var lite komplicerat (kanske) men jag klarade av det och är nu färdig för att limma ihop skåpet. När jag väl gjort det så tror jag att en stor del av det allra svåraste är avklarat. Men det vet jag ju som sagt inte, mycket återstår ju ännu.

Craft situation 3

Today I have made adjustments. That means I have made the holes deeper as I said before. It was a little complicated (maybe) but I managed and I am now ready to glue the cupboard together. Once I have done that, I think that the worst part is done. But I can't be sure, there is much left to be done.

Slöjdtillfälle 4

Idag har jag putsat sidoytorna och börjat limma, för ihopsättningen (pluggningen). Jag har inte stött på några större problem, jag är ganska säker på hur jag skall till väga nästa gång. (sidobrädorna, d.v.s. en av dom, var lite opassbar och gjorde ihopsättningen lite gjämn, men [redacted] (läraren) slippade ner den lite och problemet var löst.)

Craft situation 4

Today I have smoothed the side surfaces and started gluing before assembly (pegging). I haven't encountered any serious problems, I am quite sure of the way I am going to handle this next time. (The side boards, i.e. one of them, was a little uneven and that made the assembly uneven, too, but xxx (the teacher) sandpapered it a little and the problem was solved.)
(Boy, woodwork and metalwork)

Jag fick lite problem med knäppningen men fick ingen hjälp så jag gjorde på mitt sätt, vilket också gick bra.

I had some problems with the buttoning but I didn't get any help so I solved it my own way, which was all right, too.
(Girl, textile craft)

The students' way of describing their craft training also shows their ability to plan and to plan ahead. Schön (1983) says in his book *The Reflective Practitioner* that knowledge appears when you reflect on your own actions. Schön means; that once you notice the situation, you can keep a dialogue with the situation itself and thereby re-evaluate it. The above mentioned example with the buttoning shows that in spite of the student's lack of sufficient knowledge at the moment, the student has the courage to test her knowledge in new situations. When producing craft objects, problems are not always

predictable and the problem solving varies and new decisions have to be made.

About working methods and knowledge

In the report on working methods and knowledge (Swedish Board of Education, 1994), different working methods and perceptions of knowledge in craft and design are described. In a deeper and comparative analysis, parts of Questionnaire 2 are compared to the results of Questionnaire 1, the Teachers' questionnaire and the Diary study. Through the students and teachers who participated in all evaluation instruments, "The Diary group", students' and teachers' participation in the work processes in craft and design has been specially examined. The analysis shows different working methods in craft and design and how the working method affects the learning possibilities created in craft and design.

From the results of the main report and the diary study, the following questions were asked:

- Why are the students happy in craft and design whatever the kind of craft?
- How is the student's learning process affected by different working methods which make various degrees of participation in the process of craft and design possible?
- What variations in the teaching in craft and design can a more detailed and comparative analysis show within the diary group concerning different schools and craft and design groups?
- What differences exist in different working methods and perceptions of the teacher-student situation and how do they influence the students' participation in the process of craft and design?

In the abundance of differences that appear when every teacher alone or together with others, teachers or students, plan the teaching and create working methods, two groups can be distinguished:

- One group where the student feels that he/she **has large possibility** of influencing the craft and design teaching.
- One group where the student feels that he/she **has little or no possibility** of influencing craft and design teaching.

Through the results of these groupings in the different questions of the evaluation, we can conclude that the student's possibility of influencing is of great importance to the school work. Large possibilities of influencing lead to great involvement, good learning, and large awareness of the subject's as well as one's own possibilities (Swedish Board of Education, 1994).

The issue of motivation has been discussed in the comprehensive school for a long time. The comprehensive school only moves the students to the school (Persson, 1994). It is not enough that the students spend time in school without feeling motivated and involved in their school work. Are the students allowed to contribute to their learning or are they only given the possibility of attending? A kind of goodwill from the teacher to "give" everybody the same basic knowledge has usually consisted in supplying the average student with education. Bergqvist (1990) has taken an interest in the students´ and teachers' different interpretations of tasks and the purpose of those. To be taught without learning anything and to learn something without being taught are illustrated in the dissertation. Should the student only take over, "lodge" someone else's knowledge or should we make it possible for the student to absorb and "own" his/her own knowledge?

Students' influence

It is true that the craft and design main report showed that the students felt that they could participate and influence craft and design in principle whatever kind of education they "met with". This was the starting point for the report about working methods and knowledge (1994). With that report the students' influence on craft and design teaching is evaluated. In craft and design, we have evaluated something very special that has not been (could not be?) evaluated in any other subject, namely total student influence.

In the "traditional" education group, **"teacher-teacher"** (Swedish Board of Education, 1994, p. 33), a teacher-dominated teaching takes place. As a suggestion, all the students shall sew a pillow case (they may choose for instance colour and fabric) or all the students shall produce a door sign. A small room exists for the students to choose for instance colour, which – in spite of the teacher-dominated teaching – can make the students feel that they have participated in the decision. In a teaching other than craft and design, it could be a question of working with a task decided by the teacher, a task that everybody must work with, e.g. "lion, the animal".

The next group, **"teacher-student"** (Swedish Board of Education, 1994, p. 33), is by tradition a common form of education both in craft and design and in other subjects. Here the students use their own influence on tasks or working areas/themes decided on by the teacher. In craft and design, this could mean that you work with areas like "storage furniture", "clothing" or "knitting". The students can use their own influence but on the teacher's conditions so that the teacher has a certain control that the students have worked on and learnt approximately the same thing (?). In a subject other than craft and design, this teaching could represent "own work", where the student is allowed to work with his/her own choice of fish, e.g. "the shark", within the working area "fish", or write their "own piece" about a country within the working area "the Nordic countries". To work on "one's own piece of work" is something that is used quite frequently in large parts of "modern" education. This form of teaching has been put into practise in craft and design for many years, but now we have more and more (!) dared to abandon it for the following group:

Here the, in craft and design unique group **"student-student"**, is presented (Swedish Board of Education, 1994, p. 33). It is a group where the students are freely allowed to work out their own ideas. In this group the student has an influence on the whole process, from the choice to the possibility of making decisions all the way from his/her own idea to the finished product. In the national evaluation, craft and design is a subject where the effects of this kind of teaching could be evaluation.

The working methods have changed and are changing in the entire school. Above all in the lower grades of usual classroom teaching, the students often work on for instance the "task of the week" or their "own work" within a working area. This is a step in the right direction, but this working method rather belongs to the type of education that in the report is called "teacher-student". The teacher is most often the one who has decided the working areas or when the task should be accomplished. This working method (teacher-student) has for a long time been used in craft and design. In craft and design we have now "gone one step further" and allowed the student to work completely from his/her own ideas (student-student). The result of the deeper analysis shows that the "student-student" group achieves the highest results in more or less all the knowledge and attitude questions that exist in the evaluation instrument, while the "teacher-teacher" group shows the absolutely lowest results. In the problem-solving environment of craft and design, there are working methods that make the students feel comfort and well-being as well as meaningfulness. Developing the best of the working methods in craft and design can give, not only craft and design but the school's total activity, possibilities of a deeper involvement. Does involvement depend on the fact that the student receives knowledge in a situation that is perceived as "real" by the student?

Classroom research in Swedish craft and design

The national evaluation has provided many valuable results. In the evaluation students and teachers have well described how they look upon and what perceptions they have of craft and design. In spite of the evaluation, basic research is necessary in order to map out the activities going on in a craft and design classroom. There is a great need to describe the activities in which the students are involved during their craft and design training in order to make people aware of the lif- forming dimensions of craft and design.

Swedish classroom research into craft and design has not been widely documented. In classroom research, mostly subjects in a conventional classroom environment have been treated, possibly

with elements of teamwork or laboratory lessons. It is usually the interaction between teacher and students that is studied in a teacher-controlled communication (Granström & Einarsson, 1995). The reason that lessons in so-called training subjects have not been observed more may depend on the fact that the noise level is usually higher than in other subjects, and besides, the students move around more in the classroom during those lessons (Öhrn, 1990, p. 73).

Coming into the classroom for craft and design during a lesson, the activity can to the outsider probably seem like a somewhat confused and mobile environment. The students most often move around freely. It is allowed to walk around in the room in order to fetch tools, go to machines, pick out material, etc. Different furniture makes the classrooms for craft and design different from the conventional classroom environment and also because it is equipped with for instance machinery, tools and various materials for the craft products. In addition to colour and form experiences, the students stay in an environment that is rich in colour and visual sensations, smells and noises. The students are mostly allowed to work and talk at the same time. Even if the students work with their own tasks with interesting problem solutions, there is a wide pattern of interaction with other students. It would be interesting to examine more closely how traditions of knowledge and culture are generated in craft and design. What does the students' world of experience look like in a subject like craft and design? How are the student's life forming functions developed in the sociocultural environment of craft and design? What are the students doing during craft and design classes? What competence can they achive?

Video-recorded lessons in craft and design

Parallel with my work as a crafts teacher, I studied pedagogics, psychology and additional training in craft and design. When I worked in the comprehensive school during the 80's and 90's I had a great many pupil teachers. I then got the opportunity to sit down in the classroom and observe and experience craft and design in a different way than when I worked as a teacher. I noticed many

exciting situations that went unnoticed until I started to study them in detail more.

While video recording in the classrooms for craft and design, I felt a little like a junior stage teacher, Birgitta Kullberg, who wrote a thesis for a doctorate about the way children learn to read – how they "crack the code" (Kullberg, 1991). Despite the fact that she, during several years as a junior stage teacher, taught children how to read, she did not get the opportunity to discover how they did it until as an observer in the classroom, she started to study what happened.

In an effort to describe the complex environment of the classroom for craft and design, a pilot study has been made by using video-recorded lessons in textile craft, woodwork and metalwork during the spring term of 1995. The purpose of the recordings in that pilot study is to find out how it is possible to collect information in order to analyse the situations the students are involved in. The video camera is used as an aid to register craft activities audiovisually. One ambition is to see how, with the aid of the video camera, you can catch more details and then analyse situations several times in order to discover things you would otherwise have let pass unnoticed. Is it possible to document the content of craft and design training through video recordings? A video recording is, of course, not an exact recording of what happens. Analysis of the situations will be interpreted by the one who observes, based on pre-understanding, valuations and attitudes (Ödman, 1979). The video recordings are not meant to be a complete observation of an authentic reality, but must be seen as a sample from a complex whole. One purpose is to try to catch some of the communication processes in which the students participate in a complex crafts environment, where several processes may happen quickly and simultaneously (Johansson, 1996).

In the video recording of the pilot study, it clearly appears that few students sit still at their places. The students fetch tools, move over to machines, ask friends for advice and contact the teacher while at the same time observing the teacher instructing the others. Most students work together with other students during the lessons. The teacher is not the only one instructing. The students learn from each

other and communicate and share experiences while developing their knowledge. The students find it natural to help each other and to solve many problems together. The fact that they do not work solely with their own tasks does not seem to matter to the students. Many students observe others and probably take the chance to learn at the same time. Involving themselves in the work of a friend, they interrupt and help without actually being asked to do so. Experiences are reproduced and transformed and made into new knowledge of human activity (Johansson, 1996).

Some areas of experience

From the pilot study, two areas of experience which the students can be part of in craft and design are described. The data from the pilot study has been collected during the spring term of 1995 and consists of video recordings from eight lessons in grade 4, grade 5 and grade 8 of the comprehensive school.

From the lessons in woodwork and metalwork where the students are 10 years old and in grade 4, the following extract is made:

Extract 1. Enamelling

In woodwork and metalwork, a couple of girls enamelled jewellery in an adjacent work room. It is actually Ulla who "needs" to be in that room, but Lena stays next to her the whole time, polishing her metal jewellery, which she is also going to enamel later on. Lisa is also there "looking on".

Part 1

Who	*Does what*	*Says*	*Others*
ULLA	Takes out the cans with colour pigment	Which one should I take first? Blue?	No one answers

ULLA	Takes the can with the red pigment. Dusts it over the piece of metal.	I'll take this one.	
LENA	Polishes and observes Ulla		
LISA			Lisa is standing in the doorway watching
ULLA	Dusts blue colour	Would you, please, fetch the teacher? I think this is going to look great.	Lisa fetches the teacher

The teacher comes in and says the colour pigment must be put back into the can or the colours on the paper underneath will mix. They have to throw away the mixed pigments. Everybody watches Ulla throwing the pigment away. Lena takes the chance to ask "is this okay" before the teacher disappears.

Part 2

LENA	Shows her piece of metal	Is this good?	Lisa is standing next to her
THE TEACHER	Points at the piece of metal	No fingerprints?	Lisa watches
ULLA	Dusts the pigment		

THE TEACHER	Points to the edge of the metal jewellery with colour pigment	Put it on all the way out yo the edges. It doesn't matter if some of it ends up outside.	Lisa and Lena watch and listen

The teacher leaves and everybody now stands close to Ulla, who is going to add pearls to her piece of jeweller, before it is to be baked. Lena stops polishing and Lisa stands close by. There is complete silence and the atmosphere is tense. It is exciting. All of them get involved in the aesthetic experience about which pearls Ulla is going to use and how she is goi:g to place them. Later during the lesson, Lena also continues dusting colour pigment on to her piece of jewellery. The students stand close by and learn both from the teacher and from each other. You can almost visualise how Lena in her thoughts goes back to the situation "put it on all the way out to the edges" while dusting, and she stops for a moment to check whether there is enough colour pigment on the metal jewellery. Knowledge is reproduced and created anew. Later on during the lesson other exciting situations occur as when the gas is turned on, when the students light the flame and the metal is heated and changes colour. It is both exciting and a little dangerous. All three girls observe and participate in the work. There are many life-forming experiences for a ten-year-old girl to develop her aesthetic ideas together with others, and to be allowed to handle dangerous items like gas and hot metal. (Johansson, 1996)

From a textile craft lesson where the students are 14 years old and in grade 8 of the comprehensive school, another extract follows:

Extract 3. Shoulder strap

A girl, Lotta, is sewing and turning a couple of thin shoulder straps for her nightgown. Eva is sitting next to her and is crocheting a waistcoat. Maria is in the group behind Lotta and she is knitting a waistcoat.

Who	*Does what*	*Says*	*Others*
LOTTA	Sits at the sewing machine and shows the shoulder straps to Eva	What shall I do to turn them?	Maria arrives
MARIA	Takes a shoulder strap and disappears	Have you sewn through them?	
LOTTA	Tries to turn the strap with a needle		
LOTTA	Turns around towards Maria	What? No.	
EVA	Turns around towards Maria		
MARIA	Picks at the end of the strap with a pin	But it is impossible to get this through.	Comes back to Lotta
LOTTA	Points at the strap with threads and needle	Yes, I understand. You fasten a pin and then you should thread it through this. After that you turn it.	

MARIA, EVA	Stop their own work and watch		
MARIA	Shows Lotta's shoulder strap with the small short side to Eva		Lotta gets up to go and fetch a large pin
EVA	Stops crocheting and points to the strap that Maria is holding	Is she going to get that through?	
MARIA	Puts the shoulder strap on the table		Eva goes on crocheting. Maria turns around and leaves.
LOTTA	Returns with a larger pin		The teacher arrives
THE TEACHER	Stands between Lotta and Maria	Is it supposed to be turned?	
LOTTA, MARIA	Both nod	Yes	

Approximately two minutes have passed. The teacher gives a helping hand and shows how to do. Lotta, Eva and Maria stand next to them watching. Several students take an active interest in this situation. Even the teacher has problems turning the narrow shoulder strap. Finally she succeeds. Lotta gets the chance to practise her dexterity with the difficult shoulder strap while getting

experience from a polyester material that is difficult to work. Dexterity and precision can be perfected using tools and the sewing machine. In the video you can see that it takes a lot of concentration to both sew and handle the shoulder strap. Impressions and thoughts are put into action. Later on during this lesson, Lotta irons the narrow shoulder strap and chooses appropriate ironing temperature and handles the polyester material with good materials knowledge.

The areas described above contain life-forming situations. It is up to the teacher to utilise and guide the students in an educational manner with their own pre-understanding as a starting point.

It is complicated to observe craft and design with all its aspects. To observe what goes on in the classroom with the help of a video camera becomes a kind of participating observation. The pilot study has provided us with information about what is lacking and what parts can be observed, that can be used in a larger study. A more detailed collection of information was made during spring 1996 where the students were observed during some time through video recordings, own observations, students' and teachers' diaries as well as parents' questionnaires. A rich and immensely interesting material has been collected and will be used in an exciting analysis (Johansson, 1996).

References

Bergqvist, K. (1990). *Doing schoolwork. Task premises and joint activity in the comprehensive classroom.* Linköping: Linköping Studies in Arts and Science. 55.

Borg, K. (1995). *Slöjdämnet i förändring 1962-1994.* Linköping: The department for education and psychology. *(The change of the Wood, Metal and Textile Crafts and design (Slöjd) in the Swedish compulsory school 1962-1994.)*

Granström, K., Einarsson, C. (1995) *Forskning om liv och arbete i svenska klassrum – en översikt.* Skolverkets monografiserie. Stockholm:Liber Distribution. *(Research about life and work in the Swedish classrooms – a review.* The series of monographs at the Swedish Board of Education. Stockholm: Liber Distribution.)

Johansson, M. (1994). *Slöjdprocessen – Arbetet i slöjdsalen. Dagsboksanteckningar.* Rapport. Institutionen för slöjd och hushållsvetenskap, Göteborgs universitet. (*The work proceses in craft and design. The work in the classroom for craft and design. Diary notes.* Report. Department of Hand Crafts and Home Economics, Göteborg University)

Johansson, M. (1995). Slöjd – om kunskap och kultur. Ingår i L. Lindfors & J. Peltonen (Red.), *Slöjdkompetens i nordisk kultur. Del I. Bidrag av forskarnätverk 1995* (Techne serien. Forskning i slöjdpedagogik B 1/1995, ss. 115-129). Vasa: Åbo Akademi. Institutionen för lärarutbildning. Slöjdpedagogik. (NordFo Nordiskt Forum för forskning och utvecklingsarbete inom forming, håndarbejde och slöjd samt duodji/sameslöjd). (Craft and design – about knowledge and culture. n L. Lindfors & J. Peltonen (Eds.) *Sloyd competence in Nordic culture.* Techne series: Research into sloyd education B:1/1995, pp.115-129. Vasa: Åbo Akademi University. Department of Teacher Education.)

Johansson, M. (1996). Elevers erfarenhetsvärld i slöjden. Observation genom videoinspelning – en förstudie. Ingår i L. Lindfors & J. Peltonen (Red.), *Slöjdkompetens i nordisk kultur. Del II. Bidrag av forskarnätverk 1996* (Techne serien. Forskning i slöjdpedagogik och slöjdvetenskap B 1/1996). Vasa: Åbo Akademi. Institutionen för lärarutbildning. (NordFo Nordiskt Forum för forskning och utvecklingsarbete inom forming, håndarbejde och slöjd samt duodji/sameslöjd). (Students´ world of experience in craft and design. Observation through video recording – a pilot study. In L. Lindfors & J. Peltonen (Eds.) *Sloyd competence in Nordic culture.* Techne series: Research in Sloyd Education and Crafts Science B:1/1996. Vasa: Åbo Akademi University. Department of Teacher Education.)

Kullberg, B. (1991). *Learning to learn to read.* Göteborg. Acta Universitatus Gothoburgensis.

Lindfors, L. (1995). Om paradigmutveckling i pedagogisk forskning. Ingår i L. Lindfors & J. Peltonen (Red.), *Slöjdkompetens i nordisk kultur. Del I. Bidrag av forskarnätverk 1995* (Techne serien. Forskning i slöjdpedagogik B 1/1995, ss. 16-39). Vasa: Åbo Akademi. Institutionen för lärarutbildning. Slöjdpedagogik. (NordFo Nordiskt Forum för forskning och utvecklingsarbete inom forming, håndarbejde och slöjd samt duodji/sameslöjd).

(On paradigm development in educational research. In L. Lindfors & J. Peltonen (Eds.), *Sloyd competence in Nordic culture.* Techne series: Research into sloyd education B:1/1995, pp. 16-39. Vasa: Åbo Akademi University. Department of Teacher Education.)

Lindfors, L. & Peltonen, J. (Red.), (1995). *Slöjdkompetens i nordisk kultur. Del I. Bidrag av forskarnätverk 1995* (Techne serien. Forskning i slöjdpedagogik B 1/1995). Vasa: Åbo Akademi. Institutionen för lärarutbildning. Slöjdpedagogik. (NordFo Nordiskt Forum för forskning och utvecklingsarbete inom forming, håndarbejde och slöjd samt duodji/sameslöjd). (L. Lindfors & J. Peltonen (Eds.), *Sloyd competence in Nordic culture.* Techne series: Research into sloyd education B:1/1995. Vasa: Åbo Akademi University. Department of Teacher Education.)

Malmberg, E. (1995). *Att upptäcka systemnätverk i edukativ slöjd. Analyser av elevens slöjdhandlingar i en kontext. En paradigm-utvecklande ansats.* Vasa: Åbo Akademi, Pedagogiska fakulteten. (*Discovering a network of systems in educative craft and design. Analyses of the student's actions in a context. A paradigm developing attempt.* Vasa. Åbo Akademi University. Faculty of Education.)

Persson, A. (1994) *Skola och makt.* Stockholm: Carlssons bokförlag. (*School and Power.* Stockholm: Carlsson bokförlag.)

Schön, D.A. (1983) *The Reflective Practitioner. How Professionals Think in Action.* New York: Basic books.

Skolverket, (1993). *Slöjd, Huvudrapport,* Skolverkets rapport nr 24. Stockholm: Liber Distributionstjänst. (*Craft and design in school. The Main report,* The Swedish Board of Education report 24. Stockholm: Liber Distribution.)

Skolverket, The Swedish Board of Education (1994). *The work processes in craft and design - working methods and knowledge.* The Swedish Board of Education, report no 58. Stockholm: Liber Distribution.

Ödman, P-J. (1979). *Tolkning, förståelse, vetande.* Stockholm: Almqvist & Wicksell. (*Interpretation, understanding, knowledge.* Stockholm: Almqvist & Wicksell.)

Öhrn, E. (1990). *Könsmönster i klassrumsinteraktion.* Göteborg: Acta Universitatis Gothoburgensis. (*Sex patterns in classroom interaction,* Göteborg: Acta Universitatis Gothoburgensis.)

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Sloyd education and phenomenography

Abstract

The aim of this article is to discuss how the phenomenographic research method could be used in sloyd educational research. The article presents the sloyd educational paradigm that prevails at Åbo Akademi University in Vasa and some of the research that has been done according to it. Further on the phenomenographic method is presented and discussed in combination with research in sloyd education. The article ends with a short presentation of some results that derive from a small study where phenomenography has been used in sloyd educational research in order to learn more about students´ conceptions of sloyd.

Keywords: sloyd, sloyd education, phenomenography

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Sloyd education and phenomenography

Background to the terms in the article

One of the first problems that I faced when I began writing this article was the variety of terms in English for the activity that the article would deal with. The making of things from raw material with your hands, or with the use of tools, has in English usually been called *craft, handicraft, art* or *design*. The use of different terms for describing the above-mentioned activity has constituted some problems since the terms have different meanings in different cultures. Anna-Marja Ihatsu (1996) has analyzed the concept of craft in British culture, and has tried to find a rough basic definition of the concept.

The researchers in the network that is subordinated *to The Nordic Forum for Research and Development in Craft and Design, NordFo*, discussed the use of the different terms for the activity, and decided to launch the word *sloyd* as an umbrella term for different educational crafts whose scientific basis is to be found in Sloyd (or crafts) Education and Crafts Science[1]. In this article I have decided to use the word sloyd for the activity in question. Sloyd derives from the Swedish word *slöjd* which originally means smart, skilful ingenious (Eriksson, 1979, 6). Also the academic disciplin that deals with sloyd and education is in English called sloyd education.

Introduction

Sloyd education as a main subject is fairly new at Åbo Akademi University. It has only been in the university´s program since 1995. Research in the field at Åbo Akademi University has been done since

[1] The presentation of the term can be found on the cover of all English reports that are published in the *Techne Series*.

the 1980´s, but there is still much work and research to be done in order to strengthen the sloyd educational paradigm.

Sloyd educational research has so far concentrated on clarifying the relations between the elements in the complex system of sloyd in an educational context. The research methods that have been used for summarizing data are among others, soft systems methodology in combination with the Grounded-Theory method (Lindfors, 1992; Malmberg, 1995) and content analysis (Malmberg-Tulonen, 1995). Research has given us a picture of what sloyd in an educational context looks like and built models and theories about the subject in question.

After having taken part in a course on qualitative research methods, I got interested in phenomenography as a research method. This research method involves a special way of looking at man in the world and concentrates on people´s conceptions of different phenomena. Since sloyd is a an activity that, among other things, deals with knowledge, skill, and feeling, I got interested in finding out more about how people conceive these different parts of sloyd. To be able to do this, I had to find out more about phenomenography and see if this research method could be used in sloyd education.

In sloyd education or crafts science not much research has been done so far on students´ conceptions of sloyd. A couple of studies have, however, been made where students´ opinions of sloyd have been in focus. Malmberg-Tulonen has made a study in which she asked students in the seventh, eighth and ninth grades about their opinions of the importance of sloyd in the comprehensive school in Finland (Malmberg-Tulonen, 1995). Also the national evaluation of the comprehensive school in Sweden has given us a picture of how students in the ninth grade conceive sloyd (The Swedish Board of Education, 1994).

In many studies (Lindfors, 1991; Malmberg, 1995) it has become clear that the environment influences the sloyd process in the comprehensive school. The influence derives from the curricula, the school atmosphere, the learning situation, material and economic

resources, the teacher, other students, parents and so on. These influences come from "the outside". It has also been shown that the student´s own abilities and qualifications influence her work (Lindfors, 1991, 51). This can be called influences from "the inside". Because of these influences, I believe that the student´s conceptions of sloyd also influences the sloyd process and learning, and therefore it would be relevant to develop a scientific theory on this aspect.

The aim of the article

The main aim of this article is to discuss the combination of sloyd education and phenomenography. Sloyd education at Åbo Akademi University has developed its own paradigm, which is based upon systems thinking and soft systems methodology. Phenomenography on the other hand is a much discussed research method that involves a special way of looking at man in the world. The aim of this article is therefore to present the current sloyd educational paradigm that prevails at Åbo Akademi University in Vasa, and to discuss how phenomenography could be used in sloyd educational research to shed more light on the versatile area that educative sloyd constitutes.

Problems

The main problem in this article is how phenomenography can be used in sloyd educational research. The problem has to do with the nature of educational sloyd, which derives from the speciality of sloyd, which is the making of things from raw material and learning through the process. The question is how conceptions of a phenomena that includes a process, a product which is made during the process, and learning that derives from the process and the product can be studied.

The article begins with a presentation of sloyd education and phenomenography, and then moves on to discussing how phenomenography can be used in sloyd educational research. The

use of the research method in question in sloyd education will be presented in the form of a small study of students' conceptions of sloyd.

The sloyd educational paradigm

The sloyd educational paradigm at Åbo Akademi University has been developed and deepened by Associate Professor Linnéa Lindfors Ed.D., and Eva Malmberg-Tulonen Ed.D.. In this chapter I will present the paradigm mainly based on Lindfors' doctoral dissertation (Lindfors, 1992). Furthermore, I will present some of the research that has been conducted according to the paradigm.

As mentioned earlier, the sloyd educational paradigm builds on systems thinking and the use of soft systems methodology. With systems thinking one can apprehend parts and wholes in hierarchic systems in dynamic and evolutional interaction. According to soft systems methodology there are different classes of systems: 1) *natural systems*, for example man himself, 2) *designed physical systems*, for example tools of different kinds, 3) *designed abstract systems*, for example rules and work plans, 4) *human activity systems*, human actions for producing physical and abstract systems, and finally 5) *transcendental systems*, systems which one cannot apprehend in reality and which are beyond knowledge.

Systems thinking results in an abstract way of seeing differences in what is an integral part of a system, for example persons, tools and materials, and what proceeds in the system, for example a person that is working with some material. One can say that what is an integral part of a system is static while what proceeds in the system is dynamic. The dynamic aspect of a situation is seen through the relation between the structure, for example the sloyd product that is made, and the process, what the student does to finish her sloyd product. Within systems thinking there are also human activities and intentions which are defined as teleological activities.

According to the paradigm, all sloyd activities are total actions with system structure. Central concepts of the paradigm are *system* (=

the whole), *elements* (= parts), *structure*, *hierarchy*, *relation*, *function*, and *information*.

Sloyd activities thus constitute a system, a whole, that consists of parts or elements. An element can for example be a quality, a phenomenon or an idea. The elements should be related to one another in such a way that a meaningful and characteristical whole is attained. A relation can be defined as an interdependent relation between elements, for example the work object's relation to tools and the student in a given work phase. The student constitutes a superior element in the system. Elements such as the work object and tools are elements in a subsystem in relation to the student.

Different systems can be separated from each other on the basis of their structure. The structure arises from the relation between the elements. The sloyd activities are an integral part of society, which in turn is a complex superior system. Several systems together are hiarchically built since the systems are located on different levels. Systematic changes in the relations between the elements are brought about through functions. Sloyd actions are directed and influenced by different kinds of information both from within the system and from the surrounding system.

The sloyd educational paradigm assumes that sloyd activities, in general, are goal oriented, and that sloyd actions always derive from a formal motive-result ideal which is carried out in the material.

Lindfors' systems model of holistic sloyd or craft activity (Lindfors 1991a, 21-23) (Figure 1), shows how sloyd activities can be apprehended in a larger whole, where, besides the student and her actions, the world of social aspects (the situational world), the students' closest environment, and the world of culture and nature (the environmental world) and the community outside the sloyd activity, can also be seen as influencing the sloyd process. The model thus shows that the activity is dynamic.

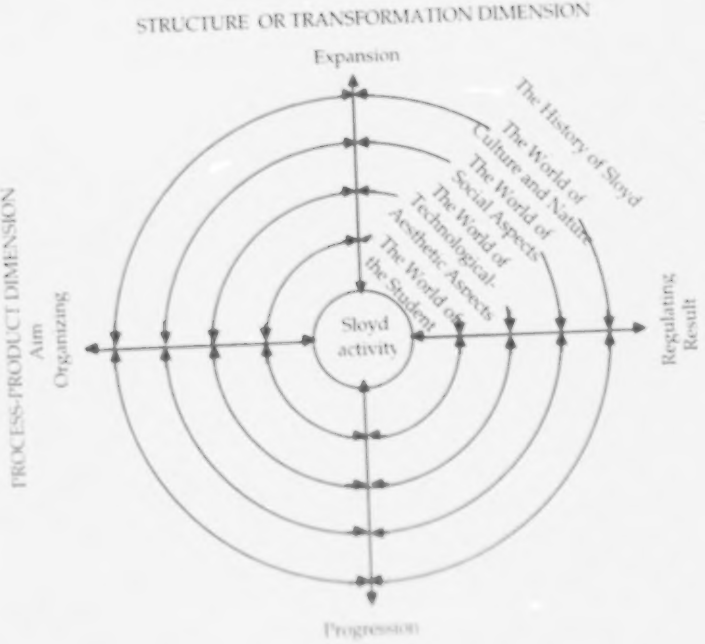

Figure 1.
Lindfors' systems model of sloyd or craft activity (Lindfors 1991a, 22).

The systems model of holistic sloyd or craft activity emanates from the core of all sloyd activities. The core of sloyd activity presents two aspects: 1) the individually related aspect of sloyd activity, which is called the world of the student, and 2) the sloyd-technological activity aspect, which includes aesthetical components and is called the world of technological-aesthetic aspects. The cover of sloyd activities and educative activities consists of 3) the social world, which is called the world of social aspects, and 4) environment-related aspects, the world of culture and nature. The three outer worlds are in constant relation to one another in all human activities. In sloyd activity the inner world consists of the student and sloyd's own technological-aesthetic component. The inner world interacts with the world of social

aspects and the world of culture and nature. The ontological essence of sloyd consists, according to this systems model, of sloyd technologically-aesthetically entailed unique sloyd actions in sloyd materials through which sloyd products are produced within the whole that core, cover and the history of the subject field presents.

Lindfors' systems model consists of worlds including all sloyd activities and educative aspects of sloyd (Lindfors, 1996). The model is based on Karl Popper's idea of man's conscious interaction with systems around him which takes the form of communication networks. In this sense also sloyd activity is a process that takes place in a network where all parts influence each other. For example, sloyd activities that take place in school are influenced, besides by the students' own knowledge and abilities, also by the world of technological-aesthetic aspects through sloyd materials and different production techniques, by the world of social aspects through the teacher, class-mates, material resources and surroundings. They are also influenced by the world of culture and nature through curricula, economic resources, parents etc. The different worlds can influence the activity in an organizing–regulating–progressive–expanding way (Lindfors, 1991a, 21-24).

Sloyd educational research

Most of the research in the field of sloyd education at Åbo Akademi University has been done by Linnéa Lindfors, Eva Malmberg-Tulonen and Christina Nygren-Landgårds (1996). I have chosen to limit the presentation of sloyd-educational research to the part of Malmberg's doctor's thesis (Malmberg, 1995) where she discusses influences from the world of culture and nature and from the world of social aspects on sloyd in the comprehensive school. She has used the above-mentioned model of holistic sloyd or craft activity as a frame of reference. This part in her thesis is very interesting as it clearly deals with conceptions and interpretations.

In order to clarify the influence of the world of culture and nature on sloyd in the comprehensive school, Malmberg has looked at the curriculum. She has taken into consideration the curriculum of 1985,

as well as earlier curricula, since they are still, through the teacher, influencing teaching in the 1990´s. Malmberg says that although the goals are mentioned in the curriculum, this is no guarantee that they are implemented in the actual teaching. Furthermore she says that the information in the curriculum is interpreted individually by every teacher and that this is one of the reasons why qualitative differences appear in the way the teachers conform to the norms. The students for their part get information about the curriculum through the teachers´ actions in teaching situations. In this way the students then form their own conceptions of the activities and work in the school. The design of the teaching situation is influenced by both the teacher´s and the students´ conceptions. Malmberg says that the second curriculum level, the curriculum that is to be implemented, is marked by the teacher´s view of society, of man, of teaching and learning as well as being marked by the teacher´s own abilities, interests and didactic proficiency .

Due to the fact that the curricula in Finland are nowadays to a large extent planned by the teachers at the schools, the teachers also have influence on shaping the teaching in an individual way. The goals mentioned in the curricula can be understood in many different ways. Malmberg says that the teacher can influence the students´ learning by varying the task areas and the main emphasis within the task areas (Malmberg, 1995, 44-47).

In studying the influence of the world of social aspects on the students´ learning, Malmberg has concentrated on the interaction between the teacher and the student in a supervisory situation. She says that when the teacher and the student meet in a supervisory situation they adapt themselves to certain roles, the teacher to the teacher´s role and the student to the student´s role. These roles are partly socio-culturally determined and partly formed little by little during the teaching situation. Malmberg also writes about internalisation regarding that the teacher and the student incorporate external conceptions and expectations. This internalisation happens most often unconsiously. Malmberg says that the student´s conception of both the student´s and the teacher´s role as well as the expectation that the teacher mediates through her actions, influence the student´s adaptation to different

situations in the sloyd activity. Malmberg compares the situation to the relation between master and novice, and says that it is difficult to know for sure how great the teacher´s influence is on the student, since much of the knowledge that the student creates is silent (Malmberg, 1995, 101).

The situation in the classroom is affected by norms, roles and assessments which in turn affect the social relations between students as well as between the students and the teacher. They also affect the work performance. According to the results from Malmberg´s research one can therefore say that a great many of the aspects of the world of culture and nature, and of the world of social aspects influence teaching through the teacher´s conceptions and personality.

What is phenomenography?

My aim in this chapter is to present the main idea of phenomenography and to highlight aspects that I think show why this method could be used in sloyd education. There is a lot written about phenomenography and a lot of educational research done applying the method (Myrskog, 1993; Heilä-Ylikallio, 1994; Eklund-Myrskog, 1996). I have chosen to present phenomenography mainly as explained in Michael Uljens´ book (1989) and Ference Marton´s article (1981) about the method. The presentation is to be seen as an introduction to phenomenography and as a basis for the study where I have applied the method in sloyd education, and it therefore does not include a detailed description of all the stages of phenomenographic research.

Phenomenography implies a special way of looking at man in the world. There are two different perspectives from which phenomena in the world can be viewed, a *first-order* and a *second-order* perspective. In the first-order perspective the researcher describes different aspects or phenomena in the environment. In the second-order perspective interest is concentrated on how other people conceive aspects and phenomena in the environment. Phenomenographic research emanates from the second-order

perspective. By using phenomenography, researchers strive to explain, analyze and understand people´s conceptions of different phenomena in the world (Marton, 1981, 177).

As an example of the different perspectives, Uljens refers to Marton´s research on children´s success at school. According to the first-order perspective one could ask why children´s success at school varies. According to the second-order perspective one could ask a certain group of people what they think are the reasons why children´s success at school varies. Marton says that there are at least two reasons that make it interesting to ask the second type of question. He says that it is interesting because of the educational potential that it holds and that, through our knowledge of how a certain group of people understand different phenomena in their environment, it becomes easier for us to teach them. The second reason why this type of question is interesting is that the results that you get are independent because they cannot be derived from results from research that has been done within the first-order perspective. Because of this, the results that you get by asking questions in terms of the second-order perspective have an undeniable value in themselves that cannot be replaced by any other type of questions (Uljens, 1989, 13-16; Marton, 1981, 178).

The central term in phenomenographic research is *conception*. In everyday use the word has almost the same meaning as opinion, one has an opinion about something. In phenomenography the word has another meaning. It means that a person has a conception *of* a phenomenon. Phenomenographers are interested in people´s conceptions *of* a phenomenon, not in their conceptions or opinions *about* a phenomenon. A person´s conception *of* a phenomenon refers to her basic understanding of the phenomenon concerned, while when talking about a conception/an opinion *about* a phenomenon, it means that one takes something into consideration and assess it.

Uljens says that conception is concerned with distinguishing how different phenomena are related to a whole. Phenomenographic bout research is therefore aimed at studying how parts/elements are organised as a whole. Uljens refers to Svensson, who has said

that what at one time may be a whole can at another time be an element; what decides this is how you delimit the whole concerned. When you concentrate on studying people´s conceptions, you make a distinction between conceiving them as a process and conceiving them as a phenomenon. You also make a distinction *between what something is* and *what something is conceived to be*. According to Uljens it is impossible to talk about conceptions without substance, it is always something that is conceived. Furthermore this something is always conceived in a certain way or as something (Uljens, 1989, 13).

If you think about the sloyd educational research that has been carried out so far, you can say that it has concentrated on analyzing *what sloyd is*. Both Lindfors (1992) and Malmberg (1995a) have clarified different aspects of educational sloyd and built theories of fundemental importance for the didactic thinking in sloyd education. By using phenomenography we could get an answer to the question *what sloyd is conceived to be*. This would represent a different angle of looking at sloyd, and the new kind of knowledge that we would get would broaden the sloyd educational field and provide valuable information for further development work.

Uljens continues by saying that what you conceive can also be distinguished with respect to thoughts that have a meaning and a physical object, and thoughts that have a meaning but not a physical object. He gives an example of this by refering to real elephants and pink elephants that do not exist in reality, and says that in both cases there is content in the thought but that the latter lacks a physical object. In order to distinguish these phenomena Uljens has divided them into so-called *primary* and *secondary phenomena*. He points out that the division in no way represents an order of precedence but that it should be regarded as a research-technical differentiation.

By primary phenomena Uljens refers to phenomena that are in some way delimited either socially, psycologically or physically. Primary phenomena are also phenomena that are tangible in some way, and that have a built-in intentional meaning. Examples of primary phenomena are an object, a picture or a text. Uljens also

says that you can experience a primary phenomenon several times without the phenomenon changing. What can change is how you conceive the phenomenon. Furthermore, he says that you can make a distinction between phenomena that have a clear substance or meaning and those that lack it.

Secondary phenomena are phenomena that the researcher from the point of view of content cannot delimit in advance. Examples of secondary phenomena are phenomena in education such as teaching-knowledge, learning, social climate, socialisation and upbringing. Uljens says that these examples are phenomena that are constituted through social reality, and that they are at the same time significant for different kinds of human activity. Further he says that when you study conceptions of so-called secondary phenomena, you can capture the essence of the conceptions of a certain group of people, but you cannot relate these conceptions to any predestinated content since the group of people you study have not encountered or taken part in the same phenomenon (Uljens, 1989, 30-33).

According to Uljens´ definition of primary and secondary phenomena, I think that when a researcher who applies phenomenography studies people´s conceptions of sloyd in general, sloyd represents a secondary phenomenon since it cannot be delimited in advance and since the students do not experience exactly the same phenomena. If, instead, you are interested in people´s conceptions of a certain tangible sloyd product that they all can see and experience, then you can say that the sloyd product is a primary phenomenon. In both cases the research is based on the second-order perspective; which means that you look at the phenomena through other people.

People´s conceptions of and different ways of looking at the world are not seen as something uniquely individual by the phenomenographers. Conceptions of the reality constitute instead a limited number of qualitatively different ways of how a phenomenon can be conceived. In phenomenography you are not interested in how or what a phenomenon is in reality or whether the conceptions that people represent are true or false. You are

instead interested in the meaning that people put into the phenomenon in question and aim to describe their qualitatively different conceptions of it. Uljens says that it is impossible to compare people´s conceptions of the world with the world itself, since the world is constituted of people´s conceptions of it. Finally he says that the concepts of the first-order and the second-order perspectives are two concepts by which you can distinguish two completely different research problems. The two problems can be related to one another by studying the same research area (Uljens, 1989, 14-17). The first-order perspective concentrates on reality itself – in sloyd education this is presented by the research done by Lindfors and Malmberg – while the other concentrates on human conceptions of reality.

According to Marton (1981, 180), the aim of phenomenographic research is not to classify people or to compare groups. The aim is also not to explain, predict or make fair or unfair judgements of people. The aim of phenomenographic research is to find and systematize forms of thought in terms of which people interpret aspects of reality. The researchers task is to describe how a particular phenomenon is conceived by people.

In order to validate the results, Uljens refers to Hasselgren who has said that the researcher, before he analyzes the results, should clearly define his own framework and personal conceptions of the phenomenon in question. The main results of a phenomenographic research is *the description categories of qualitatively different ways of conceiving the phenomenon in question* (Uljens, 1989, 34).

From the sloyd educational point of view knowledge of qualitatively different ways of conceiving sloyd could be useful for developing sloyd in the comprehensive school, and to confirm the discipline among other disciplines in the university. I see it as an advantage that sloyd education should use different research methods, and through them attain a versatile knowledge of the nature of sloyd.

How can sloyd education and phenomenography be combined?

As already mentioned above, there are ways of applying phenomenography in sloyd educational research. In a way, the structure of phenomenographic research resembles in many respects the current sloyd educational paradigm that builds on systems thinking and the use of soft systems methodology. They both see the phenomenon/object in a context and aim to describe it by using a system of elements that are in relation to one another. There are of course also many differences between phenomenography and soft systems methodology. The differences depend, for instance, on the perspective that the research takes as well as on the outcome of the research. Research in sloyd education has so far looked at sloyd from the first-order perspective, whereas phenomenography always applies the second-order perspective. In phenomenography the results of the research consist of description categories of qualitatively different ways of conceiving the phenomenon in question, whereas the results of research that has applied soft systems methodology can be presented in categories on several levels as verbal descriptions and models of complex systems. The results can later on be tested in the real world.

One may ask why sloyd education would need knowledge that derives from the second-order perspective. One answer could be that the perspective that it adopts gives us a chance to look at sloyd phenomena with the eyes of other people and learn how they conceive the activity. I got interested in phenomenography as a research method because it differs from most other methods by its way of looking at man in the world and because it uses many different kinds of data such as interviews and drawings. When we learn more about how people conceive aspects of the world, we get valuable information that helps us to better understand and teach them. In sloyd, which broadly speaking deals with knowledge, feelings and skills, and where studying–learning occurs through the making of things, there are areas where sloyd education would benefit from the knowledge that could be derived by applying phenomenography as a research method. It would for example be interesting to learn more about students' conceptions of learning in

sloyd, their conceptions of sloyd in an environmental context, and their conceptions of the importance of sloyd.

The second problem that I aim to discuss in this article consists of how one can study conceptions of a phenomenon that includes a process, a product which is made during the process, and learning that derives from the process and the product. Eklund-Myrskog (1996) has touched on this area in her doctor´s thesis, where among other things she describes learning outcomes of student nurses and car mechanic students. Both student groups study a subject that consists of theory and practise. The students first learn something in theory and then they apply their new knowledge in practice. The car mechanic students´ studying and learning is quite similar to studying and learning in sloyd. In both cases there is raw material of some kind that is worked up into a product, but there is also a major difference, a difference consisting in the educative perspective in sloyd. The goal of educative sloyd is not just learning something in theory and applying it in practice; it is not limited to producing a product. The goal of educative sloyd consists of the process that starts with a motive-result ideal and ends with the evaluation of the finished product. The students in sloyd are not only taught how to make things, a lot of emphasis is put on the educative perspective that sloyd provides, for example to rely on oneself, to learn how to learn, to become creative, to have aesthetic experiences, to develop all sides of one´s personality, and to conceive the holistic aspect of sloyd in an environment.

Much of the phenomenographic research that has been made on learning (Heilä-Ylikallio, 1994, Eklund-Myrskog, 1996) can be of help when the method is applied in sloyd education. One must, however, bear in mind the uniqueness of learning in sloyd that derives from using one´s knowledge, skills, and personality for making tangible products from raw material. The sloyd process, how you work and solve problems, is just as important as the finished sloyd product.

An attempt to apply phenomenography in sloyd education

In order to learn how phenomenography could be used in sloyd educational research and to test the method, I conducted a small study where I tried to find out students´ conceptions of sloyd. The study was made by using drawings which also constitute rare research material. In this article I want to make a brief presentation of how the study was carried out, and also present some of its results. Since the study has not yet been completed, the following presentation should be regarded as a glimpse into an on-going research. For the same reason I have also decided not to discuss the validity or reliability aspects of the study in this article.

The object of the study was to learn about students´ conceptions of sloyd and, as already mentioned, to test the phenomenographic method. I decided to use drawings as data material since it was a new and interesting method that I wanted to try out. I was very well aware of the problems that this would cause, but with the use of drawings I thought that I could find out conceptions of sloyd that would maybe be difficult, or take a lot of time, to find out using for example interviews. The use of drawings as research material has of course its problems. One of them is that many think that they cannot draw and that prevents them from expressing what they really think. There is also the problem of interpreting what someone else has drawn, but when you analyze drawings in phenomenography you focus on the drawing as a whole and do not pay attention to how well the drawing is made. In order to be able to analyze the drawings it is very helpful if the drawings are completed with a short description of the motif on the back of the drawing.

I chose to limit my study to third-graders in the comprehensive school. Third-graders are about nine years old and can be assumed to be children who are not afraid of drawing. The older the children get, the more they think that they cannot draw and feel inhibited about drawing. In the comprehensive school in Finland students are taught both sloyd areas equally much in the third grade, which was also important for my study. The students consisted of twenty third-graders, eleven boys and nine girls, in a comprehensive school in

Ostrobothnia in Finland. I asked the students to draw a picture of *someone who is working on a sloyd product* (in Swedish "Rita en bild som visar när någon slöjdar"). I got the idea for the study and for the use of drawings from research made by, among others, Wenestam & Wass (1987) and Heilä-Ylikallio (1994).

The study resulted in twenty colourful and informative drawings that showed raw material, tools, and sloyd products. Some of the drawings were very detailed and showed the sloyd activity in an environment, while other students had concentrated on drawing only the tools and raw material.

Categorisation of the drawings

I began to categorise the drawings by putting them on a notice-board and looking at them for some time. First I could not see any similarities or clear groups, the drawings seemed all unique and very different. After a while I could distinguish groups of drawings that with regard to their content somehow resembled each other. There were drawings where tools and raw materials were depicted as well as drawings that clearly showed someone working with a sloyd product and drawings that concentrated on the finished product. I roughly categorised the drawings and noticed how they began to resemble the worlds in Lindfors' system model of sloyd or craft activity.

I found four qualitatively different categories that concentrated on the students' conceptions of the interaction between the student, the sloyd process including the sloyd product and tools as well as the environment. I decided to compare my categories with Lindfors' worlds in the systems model. Each category is also presented with one or two drawings. The comments below the drawings are the students' own comments that were written on the backs of their drawings.

The drawings in the first category show that students conceive sloyd as an activity that takes place in an environment that consists of other persons and of other tools and materials than those in use

at the moment. The drawings also show that the depiction of the sloyd area is gender-linked even though students in the third grade in the comprehensive school have had equally much teaching in both sloyd areas, textile and technical. In accordance with Lindfors' model I have interpreted the drawings so that the students in this category conceive of sloyd as an interaction between the world of the student, the world of technological-aesthetic aspects and the world of social aspects, as well as indirectly of the world of culture and nature.

In five of the six drawings in this category, the students have drawn clear expressions on the faces of the persons. Three drawings show a smiling person while two students have drawn grave expressions on the persons' faces, which can be interpreted as signs of concentration, frustration or unhappiness. These facial expressions can be seen as signs of the students' personal experiences and conceptions of sloyd activities. There is especially one drawing that shows what an aesthetic experience sloyd can be (Figure 2).

Figure 2.
Example of a drawing in category 1. "I am working on my sloyd product." (In Swedish: "Det är jag som snickrar")

The drawing shows a boy who is working in a well-equipped room where each tool and material has its place. You can see his half-finished sloyd product on the planing bench. The sun shines through an open window in the wall, and the boy is smiling and singing while he is doing his work. I think that this drawing clearly shows how the student conceives sloyd with all his senses as an aesthetic experience.

In another drawing a student has drawn two persons who are working (Figure 3). One of them is sitting on a chair knitting. You can see that he has proceeded in his work but that he also feels frustration. His hair stands on end and his expression is concentrated. The other person in the drawing stands behind the chair and is sawing off one of the legs of the chair. This can be interpreted as an attempt by the student to show how one can be disturbed in class during one's work by other students who concentrate on disturbing instead of working on their own sloyd product.

Figure 3.
Example of a drawing in category 1. "Someone is knitting a muffler, the little one is a troublemaker." (In Swedish: "Någon stickar en halsduk, den lille vill bråka.")

The drawings in the first category thus show other tools and materials in the environment than only those in use. There are six drawings in this category, four of them by girls and two by boys. I could distinguish several subcategories (Figure 4). In the first subcategory I classified the drawings according to sloyd area, textile or technical. This classification led to three categories,

1.1 *Textile materials*, two girls
1.2 *Wood and metal materials*, three boys
1.3 *Both textile, wood and metal materials*, one boy

Among these drawings I could still distinguish subcategories. I seized on what technique was depicted and found the following categories:

1.1.1 *Embroidery*
1.1.2 *Knitting*
1.2.1 *Woodwork*
1.2.1.1 *Hammering*
1.2.1.2 *Planing*
1.3.1 *Knitting*
1.3.2 *Sawing*

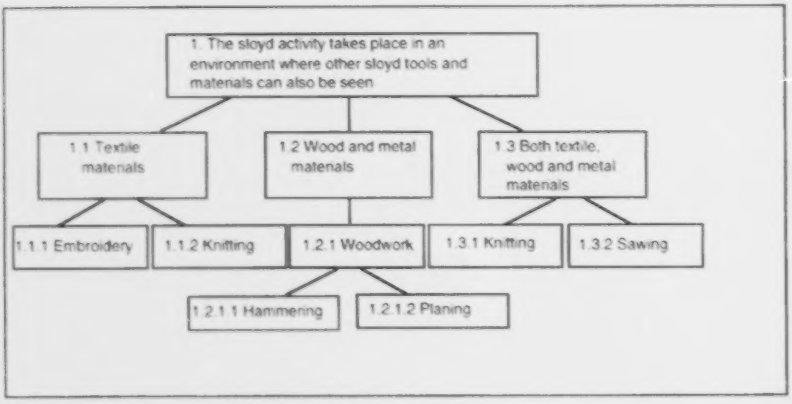
1. The sloyd activity takes place in an environment where other sloyd tools and materials can also be seen
1.1 Textile materials
1.2 Wood and metal materials
1.3 Both textile, wood and metal materials
1.1.1 Embroidery
1.1.2 Knitting
1.2.1 Woodwork
1.3.1 Knitting
1.3.2 Sawing
1.2.1.1 Hammering
1.2.1.2 Planing

Figure 4.
Category 1 with subcategories.

The drawings in the second category show a person who is working on a sloyd product in an environment that is irrelevant to the

activity. There are eight drawings in this category, three of them made by boys and five by girls.

In four of the five drawings that show the face of the person working with a sloyd product, the person smiles. Even though the students have concentrated on drawing only the person working with a product, their drawings are full of details and one can easily discern what aspects have been in focus in the teaching. For example in the drawings that show a person sewing on a sewing machine, the students have drawn the balance wheel, thread reel and pedal, even the make of the machine can be seen in some drawings (Figure 5).

Figure 5.
Example of a drawing in category 2. "He is sewing on a machine." (In Swedish: "Han syr på en symaskin.")

The students have also drawn the right posture when sewing on a machine. It is also interesting to notice how the students have technically dealt with drawing someone sitting at a sewing machine. Two students have solved the problem by drawing the persons from behind. This is how one often sees students when they

are working in rows at school. One student has drawn a sewing machine and two big hands – this is what you can see when you yourself are sewing. The fourth student has drawn the person from the front, but turned the sewing machine the wrong way (Figure 5). In reality sewing would not succeed in this way since the person is actually sitting behind the sewing machine. In all the other drawings the students have drawn the persons standing, independently of which sloyd area they depict.

A common feature of all the drawings in the second category is that they depict the environment with an emptiness or some kind of frame around the person. Only the necessary tools and materials for the sloyd activity at hand are drawn. The lack of relevant surroundings for the sloyd activity can be interpreted as indicating that the students conceive sloyd as an interaction only between the student and the material that she is working on. According to the worlds in Lindfors´ model this could mean that the activity is an interaction between the world of the student and the world of the technological-aesthetic aspects.

I could distinguish two subcategories depending on which sloyd area the drawings showed (Figure 6).

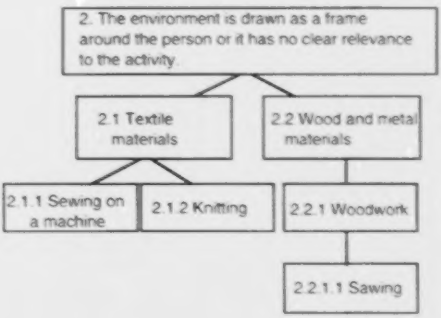
2. The environment is drawn as a frame around the person or it has no clear relevance to the activity.
2.1 Textile materials
2.2 Wood and metal materials
2.1.1 Sewing on a machine
2.1.2 Knitting
2.2.1 Woodwork
2.2.1.1 Sawing

Figure 6.
Category 2 with subcategories.

The subcategories are

2.1 *Textile materials*

2.2 *Wood and metal materials*

Furthermore I could distinguish the technique within the sloyd area. The following subcategories were found:

2.1.1 *Sew on the machine*, three girls and one boy

2.1.2 *Knitting*, two girls and one boy

2.2.1 *Woodwork*

2.2.1.1 *Sawing*, one boy

The third main category consists of only three drawings that show tools and materials. All drawings are by boys and they have all drawn tools and materials connected with wood and metal work. All of them have also chosen to draw sawing.

A common feature of the drawings in this category is that they all depict working on raw material, and even though they are chary they are also quite detailed. Even if the students have not drawn a person or an environment for the activity, they have carefully drawn the sawteeth and the surface of the plank. By means of short strokes the students have also illustrated how the chips fill the air when you are sawing and the speed and strength that are necessary for the activity. One of the students has clarified his drawing with an arrow and a comment on the front of the drawing (Figure 7).

Figure 7.
Example of a drawing in category 3. "A saw is sawing off a piece of wood, the axe and the knife are also there." (In Swedish: "En såg sågar av träklabben, yxan med, kniven med.")

This category of drawings is also interesting considering the task that the students were given: to draw a person that is working on a sloyd product. In the instructions it was clearly said that they would draw a person, but these students have chosen to draw only the tools and the raw material. One can ask if they conceive sloyd to be an activity that does not have anything to do with them. One of the students has written on the back of the drawing that the saw is sawing (Figure 7). According to him it is the tool that acts, not the person. According to Lindfors' model I have interpreted these drawings as illustrating the world of technology-aesthetics.

The drawings in this category were categorised as follows (Figure 8):

3. *Sloyd materials and tools*
3.1 *Wood and metal work*
3.1.1 *Wood work*
3.1.1.1 *Sawing*

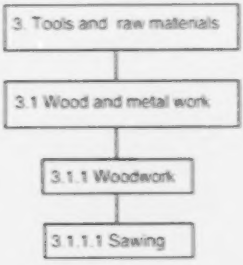

Figure 8.
Category 3 with subcategories.

The fourth category includes three drawings, two by girls and one by a boy. Common to these three drawing is that they all show the finished sloyd product. The main category is therefore *4. The finished product*. Two of the drawings are very similar both with respect to their content and to the way in which they are drawn. They are drawn by girls who sat next to each other and who are probably best friends. They have drawn a smiling person standing

next to a picture on a wall (Figure 9). The motifs of the pictures on the wall are different as well as the colours in the drawings.

Figure 9.
Example of a drawing in category 4. "I have sewn a wall decoration." (In Swedish: "Jag har sytt en tavla.")

The third drawing, which is made by a boy, shows a tractor on a planing bench. The boy has used only two colours in his drawing, yellow and black, and used only the bottom part of the paper. The lonely tractor on the planing bench can be seen as a proud exhibition of the finished product or as the result of many difficult hours and a feeling of loneliness.

One of the interesting things about the drawings in the fourth category is that the students have concentrated on the finished sloyd product and that they see it as something outside themselves. In both drawings that show a person there is no contact between the person and the product. Only the students explanations on the back of the drawing indicate that they have made a picture of some sort in sloyd. Even though there is no contact between the person and the product my interpretation is that the students are satisfied

with their product since the persons in the pictures have a calm and relaxed posture and they are smiling (Figure 9). The drawings in the fourth category can thus be seen as belonging to the world of the student in Lindfors' model. The drawings show the student as a person who is willing to exhibit the result of his work and who shows pride in it.

The categorisation of the drawings is as follows (Figure 10):

4. *The finished sloyd product*
4.1 *Person and product*, two girls
4.2 *Product and work bench* , one boy

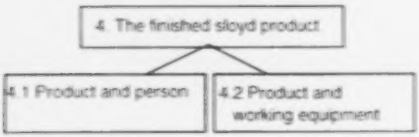

Figure 10.
Category 4 with subcategories.

Conclusions concerning the application of phenomenography in sloyd educational research

The analysis of the results from the study presented above is not yet finished, and there are several aspects that still need to be taken into consideration and analyzed. So far I have only analyzed the drawings in general, but have not yet looked at them in reference to for example Malmberg's theories of influences of the world of culture and nature on sloyd in the comprehensive school. Considering the fact that many of the drawings were gender-linked might also have to do with the fact that the cultural heritage affects the students to a larger extent than teaching in school can do.

One conclusion that can be derived from the study at this point is that students focus on several different things when they are asked to think about sloyd. Some of them think of sloyd as an activity that takes place in a many-faceted environment like a classroom, while

others think about raw materials and tools. If students have such different conceptions of sloyd activity, this gives a good reason to ask if it also affects their learning in sloyd and their conceptions of sloyd even after they have finished school.

Even though the study is not yet finished, I can, from the experience of applying phenomenography in sloyd educational research, say that it is a method that can successfully be used. In order to use it more fruitfully, it is however necessary to learn more about it and to carefully consider what kind of research in sloyd education it can be applied to.

References

Eklund-Myrskog, G. (1996). *Students' Ideas of Learning: Conceptions, Approaches, and Outcomes in Different Educational Contexts.* (Published doctoral dissertation). Åbo: Åbo Akademi University Press.

Eriksson, K. H. (1979). *Skolan och slöjden. Två kulturer. Något om värdering av praktiskt och teoretiskt arbete – ett idéhistoriskt perspektiv.* (Rapport 4). Linköping: Universitetet i Linköping.

Heilä-Ylikallio, R. (1994). *Mönster i förskoleбarns möte med skriftspråket.* (Licentiatavhandling). (Rapporter från Pedagogiska fakulteten 7/1994). Vasa: Åbo Akademi, Institutionen för lärarutbildning.

Ihatsu, A-M. (1996). *Craft, Art or Design? In pursuit of the changing concept of craft.* (Published minor subject dissertation). (Techne Series: Research Report in Sloyd Education and Crafts Science A:1/1996). Joensuu: University of Joensuu, Faculty of Education.

Lindfors, L. (1991a). *Slöjdverksamhetens grunddimensioner vid arbetsinlärning i ett slöjdpedagogiskt perspektiv.* (Rapporter från Pedagogiska fakulteten 33/1991). Vasa: Åbo Akademi, Institutionen för lärarutbildning

Lindfors, L. (1991b). *Slöjddidaktik. Inriktning på grundskolans textilslöjd.* Loimaa: Oy Finn Lectura Ab.

Lindfors, L. (1992). *På väg mot en slöjdpedagogisk teori. Paradigmutveckling och kunskapsbehållning –*

sammanfattning av tre studier. (Rapporter från Pedagogiska fakulteten 34/1991). (Akademisk avhandling). Vasa: Åbo Akademi, Institutionen för lärarutbildning/Institutionen för pedagogik.

Malmberg, E. (1995a). *Att uptäcka systemnätverk i edukativ slöjd. Analyser av elevens slöjdhandlingar i en kontext. En paradigmutvecklande ansats.* (Akademisk avhandling). Åbo: Åbo Akademis förlag.

Malmberg-Tulonen, E. (1995b). *Slöjdfostran i kulturkampen Del III. Skolslöjdens betydelse ur elevperspektiv. En lokal undersökning.* (Publikationer 19/1995). Vasa: Åbo Akademi. Pedagogiska fakulteten.

Marton, F. (1981). Phenomenography – describing conceptions of the world around us. *Instructional Science* 10 (1981) 177-200.

Myrskog, G. (1993). *Lärarstuderandes tankar om inlärning. En studie av lärarstuderandes uppfattningar av inlärning i relation till olika kontexter inom lärarutbildningen.* (Rapporter från Pedagogiska fakulteten 6/1993). (Licentiatavhandling). Vasa: Åbo Akademi, Institutionen för lärarutbildning.

Nygren-Landgärds, C. (1996). *Det tänkta och det upplevda undervisningsämnet. En studie om undervisning i textilslöjd ur lärarutbildarens synvinkel.* (Opubliserat manuskript för licentiatavhandling). Vasa: Åbo Akademi, Institutionen för lärarutbildning.

Porko, M. (1996). *Student's conceptions of sloyd in the comprehensive school.* (Unpublished manuscript for minor subject dissertation). Vasa: Åbo Akademi, Institutionen för lärarutbildning.

The Swedish Board of Education (1994). *Craft and Design Slöjd. The work prosesses in craft and design – working methods and knowledge. The national evaluation of the Swedish comprehensive school spring 1992.* (Report no 58). Stockholm: Liber Distribution.

Uljens, M. (1989). *Fenomenografi – forskning om uppfattningar.* Lund: Studentlitteratur.

Wenestam, C-G. & Wass, H. (1987). Swedish and U.S. children's thinking about death: A qualitative study and cross-cultural comparison. *Death Studies,* 11, 99-121.

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Technology education in the perspective of Finnish sloyd

Abstract

This article describes Finnish sloyd education and how technology is involved in it. Sloyd education in Finland is divided into two components, textile and technical sloyd; technology is examined only from the point of view of technical sloyd. Special attention is paid to the conceptual definition of technology and sloyd. Technology and its impact on our everyday life is quite enormous. In spite of this fact, there is a demand that the Finnish cultural heritage and its special characteristics should be maintained in sloyd education. This aspect is brought forward by reviewing the development of sloyd education and sloyd education teacher training.

Keywords: Technology, handicraft, sloyd.

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Technology education in the perspective of Finnish sloyd

Introduction

By technology we generally mean mechanical, chemical or information technology and industrial production. Questions have lately arisen about the role of technology in Finnish education. This debate has almost in every case concerned the level of national education or the status of technology in Finnish curricula. Irrespective of the definition of education and teaching, the purpose of technology education has been seen to involve technological aspects on sloyd. Inperfect definitions of concepts have led to a situation where teachers in some cases react against every possible demand to create a new subject. They want to maintain the old term sloyd and its more or less traditional content. The latest discussion about this matter in Finland occurred during the curriculum development process at the beginning of the 1990's.

There is a possibility in sloyd education of adopting a technology-emphasized model of teaching without great changes in the curriculum. This is why the recent approach to technical sloyd in Finland is quite similar to global approaches to technology education. Especially the concept of new technology and its different approaches can be connected to sloyd.

The Finnish ministry of education published a proposal and a plan of operations in order to improve the level of technology education in Finnish schools as a whole. This plan is a prospect of future culture and education in quick technological development. If we want to develop our culture, we cannot copy educational planning from other countries. This matter concerns also technology education. In Finland technology education is mainly fulfilled by integrating science and technology into math, physics and sloyd.

The Finnish Minister of Education has said: "Change is rapid. If we dig out our predictions of future trends from five years back, we can see that they went all wrong. This should not, however, discourage us or lessen our will to go on making our own future, because if we lose that faith, it may result in an ideology of holding on to the old and opposing change just for the sake of opposition." (Heinonen, 1995, 81.)

Examining technology

The concept of technology

In Finland the term technology is used in standard language in many different senses. As a general term technology is everything that man has made. Segerstål (1986, 66) thinks that technology must be considered as an autonomous knowledge mechanism and as a social system. This definition emphasizes technology's independent status and may disconnect it from the human socialization process.

With new technology we generally mean only electronics and devices constructed after the electronic revolution. This definition of technology is complicated because the flood of innovations rapidly produces new devices, services and knowledge. Especially in the field of electronics a period of two years is long enough to make history of something that is now new. For example computer technology becomes obsolete in two months. This is why the terminology of technology is quite confusing and misleading. In fact technology is in some cases used as a supplement to improve the status of something by changing its name. A typical example of this is farming. By adding technology to farming it can be converted to agricultural technology, which indeed sounds better.

Also in scientific argumentation technology has many different interpretations that compete with each other. Custer (1991, 114) points out that there are three main shortages in the definition of technology:

1) The historical confusion over the role of technology in education, public policy (national defence), and economical/industrial growth.

2) The existence of contrasting and diverse approaches to understanding technology that exist within academia.

3) A lack of conceptual depth and clarity in addressing the existing need for technology education.

It seems that in everyday life technology means something that only engineers can understand. If this is true, the parallel development of technology and social system will lead to autonomous engineering science, which is not dependent on social systems. This also includes an implicit pessimistic conception of education. Technology's negative effects are a quite important area that cannot be left unexamined. Particularly educational planning in the future will be strongly affected by technology and the way it will develop.

CD-Facta (1995) describes technology as follows: "Technology, technical sciences explain the methods of processing material derived from nature into usable articles. Depending on the character of this process mechanical and chemical technology can be distinguished as the two main branches". Huhtamo (1962) points out that technology is a branch of science which investigates methods, tools, machines and other instruments with which materials, found in nature, are converted into all kinds of semifinished and finished products. Huhtamo also divides technology into two main branches: chemical and mechanical technology. This definition of technology is quite generally applicable because everything that exists can be placed into either of these branches.

Segerstål (1986, 66) describes technology according to Mansfield's definition. By technology Mansfield understands social knowledge gathered from products and productive operation. The knowledge thus comprises facts from the natural and social sciences which industry takes advantage of, facts about how scientific information

is applied to production processes and facts about how production processes are maintained. This definition brings together science and technology as supporters of each other.

The objectives of technology

Knowledge is perhaps a shared element of both science and technology, it travels in society between producers and users. Fulfilling society's needs with technological instruments and information is maybe the main objective of technology. The aims of technology are derived partially from society and partially from technology itself. Segerstål (1986, 70) describes the "innovation push" and the demand of innovations. He names this phenomenon the model of linear sequences. Innovation push is caused by technology and it demands new equipment to be constructed for better results and for innovations. The demand for innovations is caused by society and it is mainly dependent on the needs of humanity to form a better and easier everyday life.

Computer technology is a typical example of innovations which are cried out for both by technology and by society. Technology makes life easier but still it generates needs for better things, for example for better health care. The improvement of life is not a matter of course. The gap between generations is huge and it cannot be narrowed when technology produces new devices and services which elderly people cannot use at all.

Classification of technology

As mentioned earlier technology can be divided into two main branches: chemical and mechanical technology. Mechanical technology produces machines and tools while chemical technology investigates the changing of elements. This definition is quite broad and it can be criticized because it does not contain any components of new technology. Electronics is of course a direct product of both mechanical and chemical technology, but computing and

programming cannot be placed in either of these sectors. Computer technology contains a huge amount of information technology in the form of programming and coding techniques. If technology is seen as a pure technique of handling materials, computer technology falls outside this definition.

The role of information within technology is meditative; technology itself produces information which flows through social systems. Information technology can also be seen as a separate field which covers the whole of modern communication. In this sense, technology has penetrated deep into modern civilization. As a result of recent progress the role of technology must be seen as a wide phenomenon, not only as a system of producing machines, tools and services.

Technology and education

Science and technology

The relation between science and technology is quite problematic, because, depending on the observer, this relation can be defined in two different ways. Sloyd education is a branch of science (in Finland), which uses educational research methods and theories, but still also investigates technological construction projects. Fitting human action and technology together is problematic on the theoretical level. Modern inquiry can be devided in to two parts: pure academic science and abstract applied technical science. The first reveals natural forces and the latter controls them. (Chant, 1989, 42.)

A brief sight to sloyd education in Finland

Sloyd education in Finland has a long tradition and it is maybe the oldest form of systematic work education in primary and secondary schools in the world. In Finland the first appearance of sloyd was due to Uno Cygnaeus in the late 1850s. His idea was to educate children by letting them create real products in schools. Girls made

articles that helped them to adapt themselves to women´s work and boys produced equipment needed at men´s work.

Salomon (1882, 13) describes a sloyd course that Ramström, an engineer gave during 1875-1881 for 1 678 participants in Sweden. He also describes Cygnaeus´s sloyd educational objectives in Finland: the objective of sloyd education is partly to improve common skillfulness and partly to arouse devotion to work and at the same time educate the learner to honour order and accuracy (Salomon, 1882, 23).

The idea of learning by doing and by making real objects remained quite stable for a long period. After World War II this status quo ended when Finland industrialized rapidly (mostly due to war indemnities) and the sloyd curriculum had to be changed. At the same time people moved to cities and sloyd lessons were the only opportunities for some boys to practise wood- and metalwork. Later in the 60´s mechanical engineering and electronics was also added to the school sloyd curriculum.

The current situation in sloyd is quite different from its initial state. When boys in the 50´s and 60´s produced large scale wood and metal work, in the present situation there are not opportunities to do this kind of things. Instead of being concerned with large products sloyd is directed towards new technology. (Opetushallitus, 1994).

Sloyd teacher education in Finland

Before 1970 teacher education took place in teacher training colleges. From 1970 teacher education was moved to the universities and the university of Turku started to educate technical sloyd subject teachers in the city of Rauma, in its old seminary.

From 1979 teacher education was started as an academic discipline in the universities. The sloyd teacher education in Rauma has produced masters of education in this field. It has so far been the only department producing Finnish technical sloyd subject teachers in Finland.

The sloyd teacher education program has been developed without doubt in the 1990s, teacher education has been the main instigator of sloyd curriculum. This is due to the local implementation of curriculums. The main group of sloyd teachers are graduated from the Rauma department of teacher education in the University of Turku and they plan the local curriculum according to the knowledge they have acquired in Rauma.

The model of technology education

Blandow (1992, 3) presents a model of technology and human resource development. This model is a quite good approach to technology and offers a good starting point for educational observation. The diversity of technology and its connections outside industrial production can be seen in Figure 1.

Figure 1.
Technology and Human Resource Development (Blandow, 1992, 3).

Blandow's model is a system of coordinates where opposite dimensions are comprised of opposite matters. As a matter of sloyd education, a very interesting arrangement is the placing of practical tasks and strategic tasks into opposite dimensions. Technology thereby becomes a connective element between doing (constructing) and knowing (science).

Blandow (1992, 4), when looking at the starting point of technology, discusses general culture and what kind of role technology plays in life. He presents three main points: changing society, advanced technology and global environment. New ways of teaching can be achieved by means of research and scientific approach to technology education.

Peltonen has proposed new approaches to Finnish sloyd education, especially in the form of philosophical basis of constructing (Peltonen, 1988). The gist of his theory is that the starting-point of sloyd education is solving practical problems which originate from the learner himself. Later on he has developed methods to validate a scientific approach to sloyd (Peltonen, 1995, 68).

The difference between Peltonen´s and Blandow´s model is that Peltonen has placed the theory of education and the theory of technology in opposite quarters. Blandow´s model is much more culture-oriented, which makes it more powerful when examining technology´s effects on mankind as a whole. Aiming at educational observation of technology there can be a few expectations. The first is that at least technology education, and sloyd education, must deal with designing as well as producing articles. The second is that most of the time in schools is spent in maintaining order. This is due to the nature of children and their age when in secondary school. If there has to be a third expectation, it would be to ask what kind of action there should be during sloyd or technology lessons. Many times this question has been asked during the curriculum preparation. The Finnish sloyd curriculum has reached its turning point and now the curriculum is changing towards a more and more open construction. Earlier it was tight, comprising every little detail from objectives to detailed lists of materials. In spite of everything that has been done to develop sloyd education, there have risen

demands to build another kind of approach. I assume that technology is made of something that has value also in sloyd education. Because there are only a few possibilities of building up a whole new subject, I will be satisfied with old Finnish sloyd terminology and practice.

Finnish sloyd and technology

The purpose of this chapter is to adapt technology education and its objectives to Finnish sloyd education. Kojonkoski-Rännäli (1995, 32) conceptualizes craft education as pure doing with one's hands. There are philosophical arguments behind this claim which are far too long to understand from a technological point of view. The main idea is that everything that can be called craft has to be done with one's hands, so there are visible prints of tools. If we generalize this idea, every kind of handwork that contains thinking or automatic machining can't be craft in its real meaning. This kind of thinking is a good way to protect concepts from being misunderstood and misused, but when we are speaking about technology or technical sciences the fact is that everything cannot be done purely with one's hands. In historical perspective we have to admit that the present situation is tomorrow's history. By denying the advancement of technology we cannot protect disciplines from being contaminated with new ideas or new approaches.

Sloyd in Finland consists of two separate subjects: textile work and technical work. Sloyd is compulsory for boys and girls in the seventh grade of the comprehensive school. In the eighth and ninth grades pupils can choose either textile work or technical work or neither.

Technical is quite large therefore enormous. A disadvantage is that the teachers must adapt themselves to many kinds of situations depending on the requirements of the curriculum. Restricting the concept of handwork is out of question, when we are speaking about technical sloyd. Peltonen (1988, 25-36) distinguishes two kinds of models in sloyd, target- and overall sloyd. The first aims at pure

handling of materials, the latter is nearer natural handwork, which is a much more holistic process.

When defining concepts, we must keep apart sloyd and sloyd in schools. For example traditional handwork is much more dependent on materials and tools than sloyd. Lindfors (1990, 10) reminds us that the objectives of both textile work and technical work are the same even if there are differences in materials. To avoid misunderstanding the term sloyd is in this article used only when dealing with teaching sloyd in schools. Kananoja (1989, 2) mentions that technical sloyd is a part of school education which also includes components of technology. So there is no doubt about the fact that sloyd education is quite near technology education on the conceptual level.

Hardly any researcher can unambiguously define what kind of contents technology as a subject should contain. In the British educational tradition technology as an independent subject plays a definite role. Norman (1990) advances examples of physical, chemical, scientific and technical contents of technology education. As a new area, electronics and computer technology has been captured by technology education. In Finland, the old tradition of producing things has been a law for a long time. It seems that in technology education, in many cases, the product is not so important as the process. The teacher education of technical sloyd teachers has lately chosen a technological process approach to educational method. It is supposed that in the near future also sloyd teachers are going to use this kind of method in teaching.

In the USA technology education emphasizes the subjective role of pupil and learning as an integral operation. The objective of technology education is the holistic development of student and his / her picture of the world. In Hungary, for example, the aims of technology education are active adaptation to the environment, environmental protection and self-development.

Parikka (1994, 19) has introduced a project to carry out technology education in Finland from the lowest grades in the comprehensive school to the higher grades. His starting point is the everyday life of

students without the confrontation of sloyd and technology. In this article, technology is seen as an integrative instrument which collects different subjects to form a new approach to teaching sloyd. This kind of approach is nearest to recent technology education in Finland. As a whole, sloyd is seen as a common denominator to both doing and technology.

References

Blandow, D. (1992). *The Elements of technology for Education.* Uitgesproken op 11 december 1992 aan de Technische Universiteit Eindhoven.

CD Facta Elektroninen tietosanakirja. (Version 1.0), [CD-ROM]. (1994). Available: WSOY [1994, No date].

Chant, C. (1989). (Ed), *Science, Technology and Everyday Life 1870-1950.* Cambridge: University Press.

Custer, R. L. (1991). *Technology: A Qualitatative Concept Analysis from the Perspectives of Engineering, Philosophy, Natural Science and Technology Education.* (Unpublished dissertation). The Faculty of the Graduate School University of Missouri-Columbia.

Heinonen, O. P. (1995). The Role of Education and Research in the Future in Finland. In L. Lehtisalo (Ed.), *Sivistyksessä Suomen tulevaisuus. Culture and Education - the Future of Finland.* Helsinki: Painatuskeskus Oy.

Huhtamo, O. E. (1962). *Mekaaninen teknologia.* Helsinki: Kirja-Mono Oy.

Kananoja,T. (1989). *Word Skill and Technology: About Activity Education and Education for Work in General Education.* (Julkaisusarja B: 29). Turku: Turun yliopiston kasvatustieteiden tiedekunta.

Kojonkoski-Rännäli, S. (1995). *Ajatus käsissämme.* (Sarja-ser. C Osa-tom. 109, Scripta Lingua Fennica Edita). Turku: Turun Yliopisto.

Lindfors, L. (1990). *Slöjdvetenskapliga och slöjdpedagogiska grundfrågor i ämneslärarutbildning.* (Rapporter från Pedagogiska fakulteten 31/1990). Vasa: Åbo Akademi. Institutionen för lärarutbildning.

Norman, E., et al. (1990). *Advanced Design and Technology.* Singapore: Longman Singapore Publishers Pte Ltd.

Opetushallitus. (1994). *Peruskoulun opetussuunnitelman perusteet.* Helsinki: Valtion painatuskeskus.

Opetusministeriö (1995). *Suomalaisen tietoyhteiskunnan kehittäminen. Opetusministeriön toimenpideohjelma vuosiksi 1995-1999.* Helsinki: Opetusministeriö.

Parikka, M., Rasinen, A. (1994). *Teknologiakasvatuskokeilu. Kokeilun tavoitteet ja opetussuunnitelman lähtökohdat.* Jyväskylän yliopisto, opettajankoulutuslaitos. Opetuksen perusteita ja käytänteitä 15.

Peltonen, J. (1988). *Käsityökasvatuksen perusteet. Koulukäsityön ja sen opetuksen teoria sekä teoreettinen ja empiirinen tutkimus peruskoulun yläasteen teknisen työn oppisisällöistä ja opetuksesta.* (Julkaisusarja A:132). Turku: Turun yliopiston kasvatustieteiden tiedekunta.

Peltonen, J. (1995). Slöjdpedagogikens multiteoretiska natur och demultiteoretiska forksningens metodik: validitetsaspekter. I L. Lindfors & J. Peltonen (Red.), *Slöjdkompetens i nordisk kultur. Del I. Bidrag av forskarnätverk 1995* (Techne serien: Forskning i slöjdpedagogik B:1/1995, 60-73). Vasa: Åbo Akademi. Institutionen för lärarutbildning. Slöjdpedagogik. (NordFo Nordisk Forum för forskning och utvecklingsarbete inom forming, håndarbejde och slöjd samt duodji/sameslöjd).

Salomon, O. (1882). *Slöjdskolan och folkskolan IV. En pedagogisk studie.* Göteborg: Göteborgs handelstidnings aktiebolags tryckeri.

Segerståhl, B. (1986). Uuden teknologian alueelliset vaikutukset. Teoksessa S. Pöyry (Toim.), *Parempi tulevaisuus - Haaste tekniikalle.* Jyväskylä: Gummerus.

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Improving sloyd through reflective practice in early childhood education

Abstract

The aim of this article is to review sloyd as a part of early childhood education. In this article possibilities of improving sloyd through reflective practice are sought. The article is based on a study which reviews craft (sloyd) and technology as components of early childhood education. At the beginning of the article, the fundamentals of sloyd are dealt with; then the results of the study are presented and conclusions based on these are drawn. In the article the reflective practice of the early childhood educator is seen as a way of improving sloyd.

Keywords: early childhood education, reflective practice, sloyd

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Improving sloyd through reflective practice in early childhood education

Introduction

Early childhood education recently became a part of university teaching in Finland. As a result, research in early childhood education has gathered momentoum in the last few years. The field of sloyd has not yet been the subject of much research, nor is there much literature in the world on early childhood education, with which sloyd is intimately connected (e.g. Browne, 1991; Browne & Ross, 1991; Richards, 1990; Ross & Browne, 1993; Stable, 1995).

Sloyd is not a new thing in early childhood education, but traditional sloyd has been regarded more as bustling activity than as systematic learning. In many cases it has not been considered a form of learning at all. Actually this is not a very bad situation, but by means of some little change sloyd can be connected to learning tasks. The connection could, for example, be one between planning and natural environment, just like green design. In this way we can get a prospect of lasting development for sloyd. In this article possibilities are sought of improving sloyd through the reflective practice of early childhood educators.

Learning by doing is the essence of sloyd

The core of sloyd lies in productive operation (Lindfors, 1992; Peltonen, 1995). The process starts from an idea and ends in a product, passing through the phases of designing and making. It is assumed that during the process a continued development of the cognitive, affective and psychomotor faculties will take place. The process is more useful for a child's learning if the productive operation is implemented as an entire process. The beginning of this

operation is the most important part, not only as regards the transfer of learning.

There is a great potential in education for using sloyd to help learners to develop their personal cognitive, affective and psychomotor faculties. This potential takes the form of learning by doing, which has been mentioned as a teaching method since for instance Comenius (1592-1671), Locke (1632-1704), Rousseau (1712-78), Pestalozzi (1746-1827) and Fröbel (1782-1852). Luther in the sixteenth century also warned against too theoretical teaching in schools. In Finland we usually refer to Cygnæus (1810-88) in this context, especially when it is a question of sloyd. Nowadays, when talking about learning-by-doing, John Dewey (1859-1952) is most often invoked. Learning-by-doing is an essential part of the constructive concept of learning.

The central idea of this constructive concept of learning is that knowledge does not transfer; it is impossible to transfer knowledge from outside into the minds of students, nor does it accumulate like bricks, but students construct it themselves (Dewey, 1916; Rauste-von Wright & von Wright, 1994). Many individual factors are involved in this selection and interpretation process. In a way, this process is always connected with the situation and the environment in which it takes place. This new concept of learning demands that the focus of teaching should be on learning. The emphasis is on learning in a classroom situation and on the student learning through experience, which is not teaching in the traditional way. In Finland early childhood education is based on the concept of learning as constructive learning (see Ojala, 1993). The concept of learning in sloyd is in agreement with this, because here learning is based on making things.

In sloyd as in the practice of constructive learning, children should mould their learning environment themselves, an environment where the self-made product is connected to real life. With the help of the product, it is possible to get familiar with the environment and to learn about the surrounding economic, technological and social culture and its importance for the individual and the whole of society.

As mentioned at the beginning of this article, development of the sloyd component in early childhood education is needed. How should such development be effected? Improving sloyd is both a qualitative and a quantitative process. According to this study, both are needed.

The teaching of sloyd involves four educational components: design, work, arts and technology (Peltonen, 1995). We can stress each of them in a different way. Technology still plays a relatively new role in teaching, but although there have been rapid developments in technology in our society we should not lose sight of the personal role of teaching sloyd in early childhood education.

The elements of sloyd as a basis for reflective practice in early childhood education

Sloyd has not been the subject of much research in connection with childhood education. Sloyd is not a rare thing, but it is regarded as simply bustling activity. This opinion has been expressed especially with regard to woodwork and metalwork. In many cases sloyd is regarded as purposeless activity because it has appeared to be nothing but nailing and hammering. Next follows a review of the present study, in which possibilities of promoting sloyd in early childhood education have been considered.

The aim of the study was to investigate, theoretically as well as empirically, early childhood educators' reflective practice concerning sloyd and technology education. Furthermore, means to develop sloyd and technology instruction in early childhood education and new theories of describing this reflective practice were sought. In the study the theoretical background of sloyd, technology education, early childhood education and experimental learning with reflective thinking came under examination.

After a review of the literature, research problems were solved by doing a survey-study involving 192 early childhood educators. The target group of the study was made up of 116 kindergarten teachers and 76 children's nurses. Only six of the kindergarten teachers and

none of the children's nurses were men. The early childhood educators who were involved in this study worked in kindergartens in four different towns. The average working experience was 12 years for kindergarten teachers and 13 years for children's nurses. The method of study was descriptive. A questionnaire containing both close-ended and open-ended questions was constructed for the study. Next the results of the study especially with regard to sloyd will be reviewed.

The research showed that the early childhood educators were generally aware of their sloyd practices and they use these in their teaching work. We can also, according to the study, assume that a lot of development is needed and desired in this field. Thus it is needful to improve sloyd in early childhood education. There was not any noticeable difference between the answers of kindergarten teachers and children's nurses.

As the starting-point of improvement, the study described what tools and materials the early childhood educators use in sloyd. The most commonly mentioned tools were hammer, saw, needle and scissors. Other tools were also mentioned, such as drills, screw drivers, brushes, knives, tongs and planes. Different materials are also familiar to the educators. The most frequently mentioned materials were wood, textiles, paper, thread, natural material, plywood, waste material, leather and plastics. We thus notice that basic tools and materials are generally in use.

In this study the use of computers was also investigated. Educational technology will become more important in early childhood education in the future. It must be seen especially from the viewpoint of equality and technological skills. The computer is a very useful tool for teaching and learning. About 20% of the kindergarten teachers and 16% of the children's nurses have used a computer in their teaching. They used the computer mostly for drawing, for educative purposes and for playing. Favourite educational software is math, native language and science software. The early childhood educators felt that they ought to develop their computer skills.

The aim was also to study what kind of tasks the early childhood educators carry out with the children. Furthermore, they said they sought to find out how suitable such tasks were in early childhood education. The tasks were traditional wood and metal work, work involving the use of electricity and the task of becoming familiar with various kits and with technology. The traditional wood and metal work and the use of kits are more favourite tasks than electrical work and becoming familiar with technology. The first-mentioned tasks are taught on a scale ranging from sometimes to often. The last-mentioned are taught on the scale never–little–sometimes. But, what is more interesting, the early childhood educators, even when they are not very much engaged in them, think that all these occupations are well suited to early childhood education.

It became clear that especially boys need this kind of activity. According to the educators, the developing of teaching practice depends on knowledge and attitude as well as on external resources such as tools, money and working environment. The most often mentioned obstacle to development was considered to be defective know-how. External resources and factors which are connected with attitude and motivation are also quite important to development. Figure 1 shows how these three subjects of reflection are connected with sloyd practice.

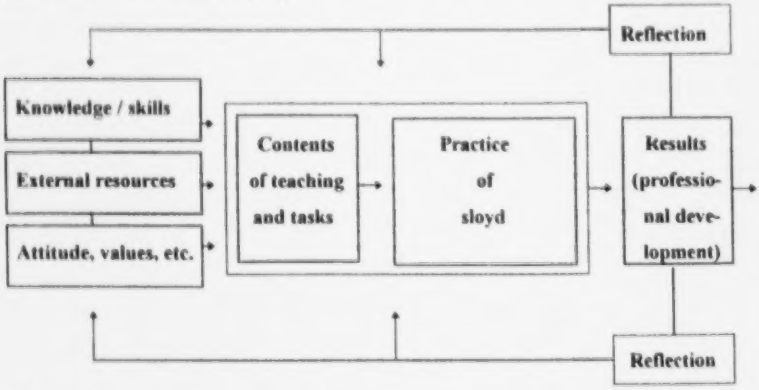

Figure 1.
The theoretical model for the reflective practice of sloyd.

The reflections were classified on technical and practical grounds in the study. The reflections ought to be promoted to a critical level, that is, in order to be able to change their teaching practice, the early childhood educators ought to be able to take up a critical attitude to their work. Promoting critical awareness is the main concern of future in-service education.

Figure 1 shows that reflection can be directed to the contents and the practice of teaching without going into the questions of know-how, external resources and attitude, values and motivation. This kind of thinking is regarded as the technical and practical level of reflection in most cases. If we are looking for reasons, that is, why we think and work in this way, we are getting to the critical level of reflection, where we can consider the determining factors of sloyd practice.

Toward reflective sloyd practice

We can, according to the study, assume that considerable development is needed and desired in this field. Thus it is needful to improve sloyd in early childhood education. In this article reflective practice is seen as a way to improve the sloyd instruction of early childhood educators (see Calderhead, 1992; Osterman & Kottkamp, 1993; Zeichner, 1992). Reflection is in a significant way connected with expertise, competence and professional development.

Early childhood educators are responsible for the transforming of sloyd practices. They should use reflective thinking as a tool of transforming sloyd. Creating increased readiness and developing the teaching effort needed requires from the teachers a bold trip into their minds and in-depth research into their own teaching practice. They can mirror their own teaching by reflective thinking. Their starting-point was their own personal experience of their teaching. Reflecting on this they can possibly reach a different and renewed practice. Experimental learning and reflective thinking are two of the most important factors in the development of an early childhood educator.

The concept of reflection

Jarvis (1987) has found that the practices and thinking modes of individuals change as a result of experience regardless of reflective thinking, but the change is also due to reflecting on experience. According to Boud, Keogh and Walker (1985, 36), it is possible to describe the core of the reflection process as a stageable course, where we reflect on our experience and review the events in our minds. We analyse that experience and re-evaluate our experience on the basis of the analysis, and we will possibly come to a new conception of the aspect and solution.

Generally reflection is understood as an examination of one's own experiences and thinking, targeting first of all recollection and then the directing of practice. The concept of reflection has been under examination especially in many publications on reflective practice (Boud et al., 1985; Grimmet et al., 1990; Jarvis, 1987; Mezirow, 1981; 1991; Schön, 1983; 1987). Reflection as a dimension of learning is not a simple concept. It is possible to define reflection in many ways and it is also hard to understand as a concept. As a concept, reflection refers to a picture reflected by a mirror in ordinary language, while in a mental sense it is a known event where people think of themselves and reflect on matters with regard to their earlier experiences. It is like an examination and exposure event, whose final outcome might be surprise.

Dewey (1910, 6) has found that reflective thinking results from active, continued, careful and critical consideration of experiences. Reflection is possible during and after action (Schön, 1983; 1987; Griffiths & Tann, 1992; Russell & Mundy, 1991; O'Hanlon, 1993). The situation can be so momentary or so exciting that there is not any time for reflection. The situation might also be forgotten and in this way reflection during action is not possible any more or it is not desirable to think about it afterwards. Early childhood educators can reflect on these matters at different depths and this reflection process is influenced by targets, situations and the readiness of the early childhood educator.

Levels of reflection are usually divided into three levels (see Grimmet, et al. 1990; Kemmis, 1985; Van Manen, 1977). The lowest level is the technical or instrumental level, the next one is a practical level and the highest is the level of critical reflection. On the technical level they work the same way they have been taught and there is not any individual modification. The practical level is a speculative level and the critical level includes calling things in question. There are also other classifications like Mezirow's (1981) seven levels of reflection.

The essence of change is in reflective practice

Many researchers assume that reflection is becoming a more important factor in the life of organizations in today's changing economic life (see Argyris, 1992; Senge, 1990). A similar change is taking place in the work of teachers (see Ostermann & Kottkamp, 1993). Today there is a lot of encouragement of deeper deliberation about the self, the work and the relationship of the organization at every level. That is why it is important to encourage teachers and educators to become more critical and more reflective in their teaching. There is thinking without reflection and without learning, but it is very useful to direct thinking to critical reflection because at that point learning always results. That kind of reflective thinking is easier if we use tools of reflection, reflecting on our thinking and actions. Tools of reflection are where we compare things. The tools of reflection of early childhood educators could be the understanding and actions of fellow workers, supplement training and lectures, articles about teaching work, the actions of children, etc.

Controlled change presupposes transformative and emancipatory learning. Merely reflective practice is not enough, but it has to advance toward transformative action. The chief factor of the change process involves individual learning for an early childhood educator. Work groups and kindergarten organizations have a great deal of influence on reflective practice and on the learning process of the early childhood educator (see Argyris, 1992; Senge, 1990). We cannot teach reflection by asking early childhood

educators, but we have to provide opportunity for it. To develop reflective practice, more "soft means" than "hard means" should be offered. Confirmation and supportive feedback give energy to the reflection process. Social support is also an essential factor in developing reflective practice. According to Senge (1990), the learning organization continually encourages and facilitates the learning of its members by all possible means.

The reflective practice of an early childhood educator includes deliberation about what, how and why to teach this way. In other words, it is essential to question comprehensively the sloyd, which is involved in the educator's own actions, curriculum, kindergarten and society. In this way he or she can develop teaching just as good reasearch teachers do. He or she has energy and courage to question the current understanding by asking, studying, examining, clarifying facts and trying them out in his or her teaching. The reflective early childhood educator has a critical reflective grip on the teaching effort and he or she has reflective practice in sloyd.

The important factor regarding teaching is just reflective thinking. One's teaching could become better by reflective thinking. In order to get lasting changes in teaching, the early childhood educators should especially call in question values and attitudes which determine their behaviour in a teaching situation (see Osterman & Kottkamp, 1993). It is also essential for teacher education and further education for teachers to focus the teacher's attention on the right things. Therefore we need tools of reflection for teacher education and further education for teachers that emphasize critical thinking during teaching. New educational technology with the Internet offers a lot of new possibilities for discussion all over the world. For example, group discussion about sloyd and teaching methods can cause a teacher to think more about a new concept of teaching and learning.

Discussion

Children want to make useful things and products themselves. It became clear that especially boys need this kind of activity in their

early childhood education. According to the educators, the developing of sloyd also extends to their teaching duties. It is assumed that a sloyd process, which begins with an idea and ends in a product, among other things promotes problem-solving, creativity and planning skills. It is thought that this process is more useful for a child's learning if the production operation occurs as an entire process.

In early childhood education children should have possibilities of becoming familiar with sloyd. This demand is fulfilled in many cases, but there is still a need and desire for development in this field. This provides an opportunity for the professional development of early childhood educators. In this article possibilities of improving sloyd through reflective practice in early childhood education have been reviewed. This has been done because reflection is seen as one way of improving professional development. Learning at the workplace is also becoming more important in further education.

References

Argyris, C. (1993). *On Organizational Learning*. Cambridge (Mass.): Blackwell.

Boud, D., Keogh, R. & Walker, D. (1985). Promoting Reflection in Learning: A Model. In D. Boud, R. Keogh & D. Walker (Eds.) *Reflection: Turning Eperience into Learning* (pp. 18-24). London: Kogan Page.

Browne, N. & Ross, C. (1991). "Girls' Stuff, Boys' Stuff": Young children talking and playing. N. Browne (Ed.) *Science and technology in the early years* (pp. 37-51). Great Britain: Gender and Education.

Browne, N. (1991). The Ideological Context of Science Education in the Early Years: An historical perspective. N. Browne (Eds.) *Science and technology in the early years* (pp. 6-23). Great Britain: Gender and Education.

Calderhead, J. (1992). The Role of Reflection in Learning to Teach. In L. Valli (Eds.). *Reflective Teacher Education. Cases and critiques* (pp. 139-146). Albany: SUNY.

Dewey, J. (1910). *How We Think*. USA: Heath and Co.

Dewey, J. (1916). *Democracy and Education. An introduction to the philosophy of education*. New York: The Macmillan company.

Grimmett, P., Erickson, G.L., MacKinnon, A.M. & Riecken, T.J. (1990). Reflective Practice in Teacher Education. In R.T. Clift, W.R. Houston & M.C. Pugah (Eds.) *Encouraging Reflective Practice in Education* (pp. 20-38). New York: Teachers College Press.

Griffiths, M. & Tann, S. (1992). Using Reflective Practise to Link Personal and Public Theories. *Journal of Education for Teaching* 18 (1), 69-84.

Jarvis, P. (1987). *Adult Learning in the Social Context*. Worcester: Billing & Sons.

Kemmis, S. (1985). Action Research and the Politics of Reflection. In D. Boud, R. Keogh & D. Walker, (Eds.) *Reflection: Turning Experience into Learning* (pp. 139-162). London: Kogan Page.

Lindfors, L. (1992). *På väg mot en slöjdpedagogisk teori. Paradigmutveckling och kunskapsbehållning - sammanfattning av tre studier*. (Rapporter från Pedagogiska fakulteten 34/1991). (Akademisk avhandling). Vasa: Åbo Akademi. Institutionen för lärarutbildning/Institutionen för pedagogik.

Mezirow, J. (1981). A Critical Theory of Adult Learning and Education. *Adult Education* 32 (1), 3-24.

Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Francisco: Jossey-Bass.

O'Hanlon, C. (1993). Reflection in or on Action? Evaluating Schön. In A. Leino, P. Hellgren & K. Hämäläinen, (Eds.) *Integration of Technology and Reflection in Teaching: A Challenge for European Teacher Education* (pp. 274-282). ATEE Conference Proceeding 1992.

Ojala, M. (1993). *Varhaiskasvatuksen perusteita ja haasteita*. [Fundamentals and Challenges of Early Childhood Education]. Jyväskylä: Kirjayhtymä.

Osterman, K.F. & Kottkamp, R.B. (1993). *Reflective Practice for Educators. Improving schooling through professional development*. California: Corwin Press. Inc.

Peltonen, J. (1995). Craft and Prevocational Education in Pre-primary and Primary Education. In J. Lasonen & M-L. Stenström (Eds.). *Contemporary issues of occupational education in Finland*. 27-41.

Rauste-von Wright, M. & von Wright, J. (1994). *Oppiminen ja koulutus* [Learning and Education]. Porvoo: Wsoy.

Ross, C. & Browne, N. (1993). *Girls as Constructors in the Early Years*. England: Trentham Books.

Russell, T. & Munby, H. (1991). Reframing: The Role of Experience in Developing Teachers' Professional Knowledge. In D. A. Schön (Ed.) *The Reflective Turn. Case Studies In and On Educational Practice*. Theachers College, Columbia University.

Schön, D.A. (1983). *The Reflective Practitioner. How Professionals Think in Action*. London: Temple Smith.

Schön, D.A. (1987). *Educating the Reflective Practitioner. Toward a New Desing for Teaching and Learning in the Professions*. San Francisco: Jossey-Bass Publishers.

Senge, P.M. (1990). *The Fifth Discipline. The Art & Practice of the Learning Organization*. New York: HarperCollins Publishers Inc.

Stables, K. (1995). Discontinuity in Transition: Pupils' experience of technology in year 6 and year 7. *International journal of technology and design education*. 5 (2), 157-169.

Van Manen, M. (1977). Linking Ways of Knowing with Ways of Being Practical. *Curriculum Inquiry* 6 (3), 205-228.

Zeichner, K.M. (1992). Conceptions of Reflective Teaching in Contemporary U.S. teacher education program reforms. In L. Valli (Ed.). *Reflective teacher education. Cases and critiques* (pp. 161-173). Albany: SUNY.

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Creativity in Cuban Teaching, Educación Laboral

An experimental work

Abstract

In this article, the longitudinal studies of the development of the students´ creativity during craft and design classes are described. Otto Salomon (1849-1907), internationally well-known craft and design educationalist, was born in Gothenburg and started a school for craft and design at Nääs in 1872. Salomon had a large circle of acquaintances and contacts were made with officials, principals and teachers all over the world. The courses at Nääs craft and design school were attended by representatives from 35 different countries. The Swedish professor, Aron Heidengren, was the person who introduced craft and design education in Cuba according to Otto Salomon's Swedish model but adapted to Cuban conditions. At the beginning of the 1990's, a Cuban researcher, Lázaro Moreno Herrera, got in contact with Swedish mediated by in order to carry out research about the roots of Cuban craft and design.Through continued contacts with Sweden through among others the Nordic craft and design organisation, NordFo (Nordic Forum for Research and Development in Craft and Design), the lecturer and Ph. D. candidate, Lázaro Moreno Herrera, here presents an article on his research.The study of the different factors conditioning the development of creativity in children is very complex. It is shown how a flexible, participatory teaching regime, which permits and stimulates the children´s interests, becomes a stimulates of their creative potentialities.

Keywords: Otto Salomon, creativity, craft and design, Cuba.

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Background

During the last twenty-five years, the Cuban educational system has been involved in a process of continuous improvement. This process aims to develop the quality of education through a creative link between Cuban historical philosophy, the latest achievements in education and the most advanced research results in this field at an international level.

The starting of handicraft teaching in Cuban schools at the beginning of this century is closely connected to Swedish pedagogy, particularly to Otto Salomon´s works and the so called *Nääs system*. From 1901 to 1904, five Swedish craft teachers came to work in schools in different Cuban cities. Newspapers and pedagogic literature from that period make references to their successful work in the schools. The first Cuban book about handicraft teaching, titled *Manual de Sloyd cubano* (Manual of Cuban Sloyd), published in 1906, was written by Aron Heidengren, one of the Swedish craft teachers who worked in Cuba.

The subject, "Educación Laboral", is a wide subject field within the educational system in Cuba. The education can for instance consist of textile craft, woodwork and metalwork, ceramics, basketwork, cooking and gardening. Domestic material is used in the teaching, the same for boys and girls.

Today the development of a human being´s creative potentialities has become a special topic of discussion and an important field of research in Cuba. The role of the school in the encouraging of children´s creativity is a topic of lively discussions.

The above mentioned historical link between Cuban and Swedish pedagogy in this subject, as well as the similarities in the goals of our present educational systems became a basic preliminary to studying the experiences of Swedish craft and design when searching for solutions to the problem of developing creative potentialities by means of practical-aesthetical education. The co-operation during the last four years between the Departments of Craft and Design at Linköping University and the Department of Hand Crafts and Home Economics at Gothenburg University and the Higher Pedagogical Institute of Pinar del Río, Cuba, has led to an exchange of ideas of important value to the development of the subject in both countries.

The research work

After initial studies in the areas of the history of pedagogy (history of Cuban and Swedish craft and design) and comparative education (current characteristics of handicraft teaching in Cuba and Sweden), we started experimental work with children three years ago. The main purpose of this study is to search for a solid and well-founded psychological criterion, of the different didactics procedures that can be used for the development of children's creative potentialities. The results of this research work form the main content of my studies for a Ph. D. degree.

Children from the fourth grade (nine year-olds) in a compulsory school in Los Palacios, Pinar del Río, in the western part of Cuba, were chosen for the experimental work. The experiment was started in this school in 1993-95 and is still going on.

An initial reference study together with the results of a pilot study led us to assume that factors conditioning the development of creativity can be classified into three broad categories:

- affective-motivational,
- intellectual-cognitive and
- teaching-organizing

In the experimental work the influence of these factors on the development of children´s creative potentialities have been studied, using questionnaires, Guilford´s tests, sociogrammes, observations and interviews.

The motivational work with children during the handicraft lesson was organised with regard to the following aspects, which have been carefully studied as well:

- the relation of the handicraft lesson to the community as part of the children's cultural identity,
- the pleasure of producing their own means,
- the national cultural identity as a general feeling of the children,
- the link of their work in the subject to daily-life problems, the protection of the environment and the production of material goods.

Some of the aspects and variables studied during the experimental work have been:

- the relationship knowledge-creativity,
- the design process and its relation to the children's creative work in the handicraft lesson,
- the creative process of children during a handicraft lesson,
- the interaction between the different components of the handicraft lesson,
- the influence of the different materials on the children's creative work, etc.

An important initial task in that experimental work was to study the effect of the different didactics procedures in the children´s creative work during the handicraft lesson. The main methods of organising the teaching-learning process tested have so far been:

- Units of studies combined with areas of interest. Units of studies are topics listed in the national curriculum of the subject which are compulsory for all the schools in the country. Within this frame children were allowed to decide what articles to make.

- Work according to areas of interest. After a study of the children's main interests including s children-teacher discussion, a list of work areas was elaborated.
- Work according to the children's own choice: children were asked to choose freely the material to work with and the articles to be made. They had to write down their final decision in an individual production plan. Changes in this plan were allowed after discussion with the teacher.

Today the study of the affective world of children, as well as of the influence of the socio-cultural environment on their creative production has been the chance of our research work. This interesting area of work has just started.

Some initial results

The very first results of the experimental work has shown us that a participatory and flexible work environment during the handicraft lesson becomes the most important factor in encouraging the children's creative potentialities. Under such conditions the teacher gets more chance of looking after the children's individual differences.

Cuban children show great talent and creativity in producing toys and games of different designs, using a wide variety of materials and constructive solutions. The present difficult economical situation in this country has encouraged them to create their own toys and games, due to the lack of ready-made products.

The school, and especially the handicraft lessons, can play a leading role in the development of the children's creative potentialities by letting them freely develop these potentialities when participating in the creative process from the birth of the idea to its practical realisation as a finished product.

The development of society in all fields requires creative human beings. We assume that every child is potentially creative if we give them the opportunity to develop themselves. The subject handicraft

can play an important role in the development of a creative person due to its tridimensional character and the considerable availability of different materials and techniques it uses.

To bring the children's world in the Cuban streets into the handicraft lesson has been a basic guide line in our research work. We believe that it is possible to develop children's capacities, skills, knowledge, feelings, etc. beginning with their own interest and personal characteristics. Our research results have indeed contributed to testifying it.

Towards the future

The Second International Symposium of Handicraft Teaching under the heading "Towards a creativity teaching and learning" will be held in Pinar del Río, Cuba, November 18-23, 1996. The Symposium is cosponsored by NordFo (Nordic Forum for Research and Development within Craft and Design), the Department of Craft and Design at Linköping University and the Higher Pedagogical Institute of Pinar del Río, Cuba.

This Symposium is aimed at encouraging research and development in the field of creativity and to awaken the consciousness of teaching and learning, focused on the creative world of children. Researchers and teachers from different Latin American countries, the Nordic countries, Japan, Europe and the U.S. are expected to attend.

The exchange of ideas and research results are always of relevant importance to the subject development. Small faces from all over the world will be the main beneficiary people.

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References

Heidengren, A. (1906) *Manual de Sloyd Cubano.* La Habana.

Martí, J. (1990). *Ideario pedagógico.* Editorial Pueblo y Educación.

Moreno Herrera, L. & Mejía Olivia, R. (1990). *Ense´nanza del Trabajo Manual en la escuela cubana prerevolucionaria. Apuntes para su historia.* Instituto Superior Pedagógico de Pinar del Río, Cuba.

Moreno Herrera, L. (1992). *Estudio Comparativo en la ense´nanza del Sloyd en Suecia y la Educación Laboral en Cuba.* Instituto Superior Pedagógico de Pinar del Río, Cuba.

Moreno Herrera, L., Ferro Fernandez, V. & Castilla Prieto, Y. (1994). *Teaching organizative factors in the development of creativity trough out Educacion laboral lesson.* Higher Pedagogical Institute of Pinar del Río, Cuba.

Moreno Herrera, L. (1994). *The sloyd in the cuban and latin american pedagogy.* Higher Pedagogical Institute of Pinar del Río, Cuba.

Thorbjörnsson, H. (1990). *Nääs och Otto Salomon - slöjden och leken.* Ordbildarna AB, Helsingborg.

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